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The OIL AND GAS JOURNAL

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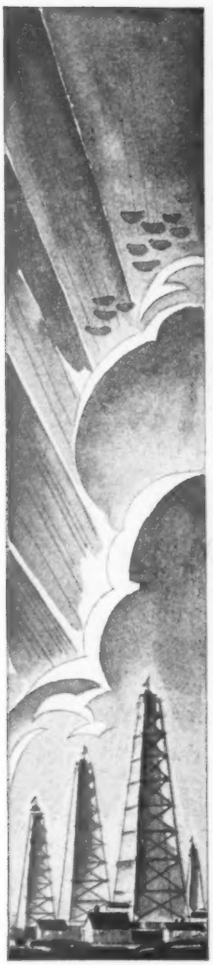

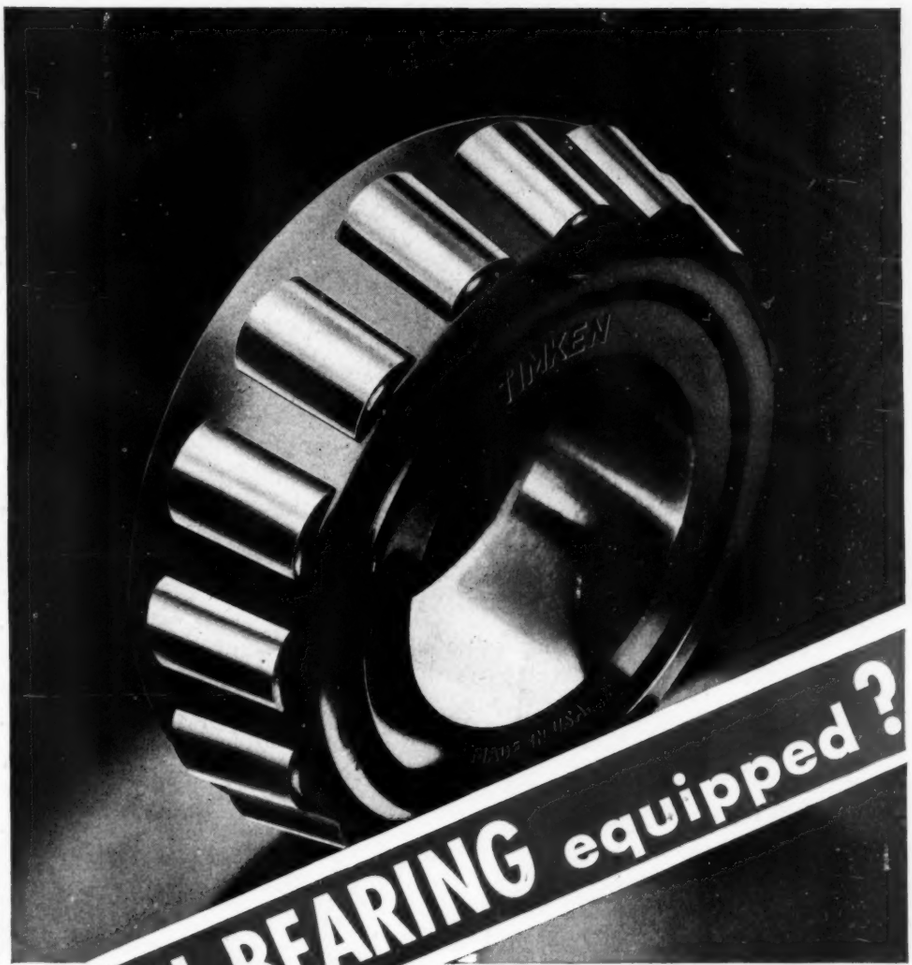

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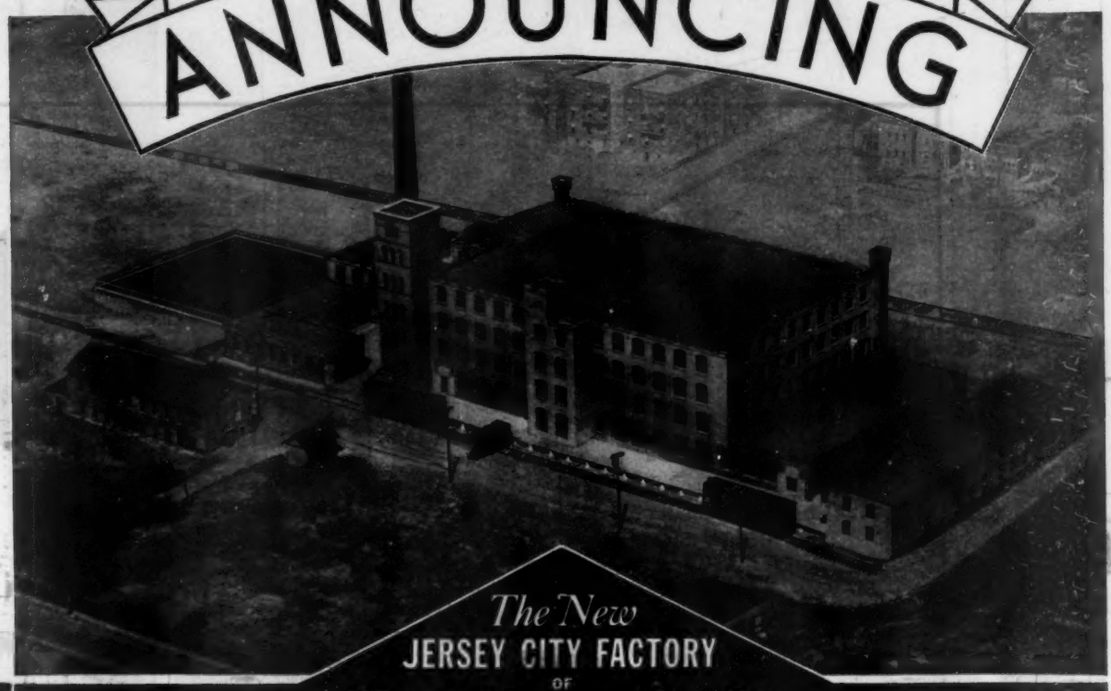

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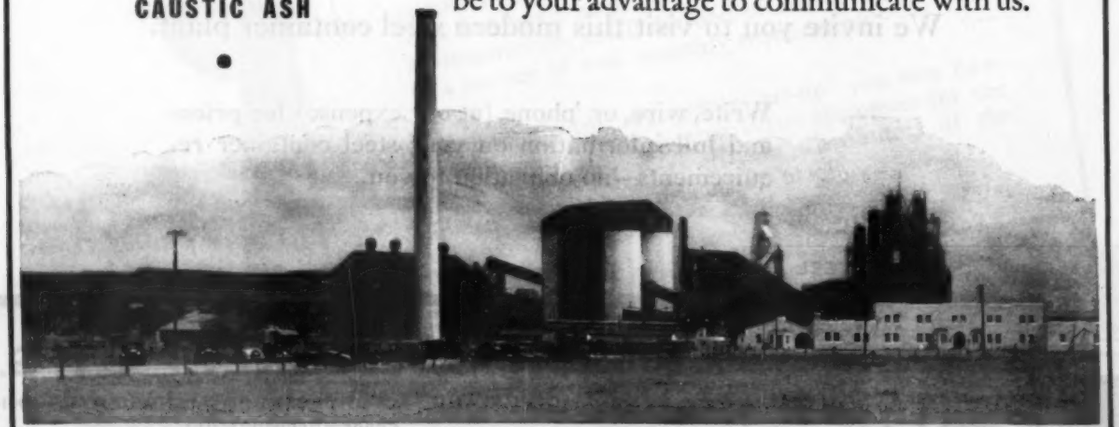

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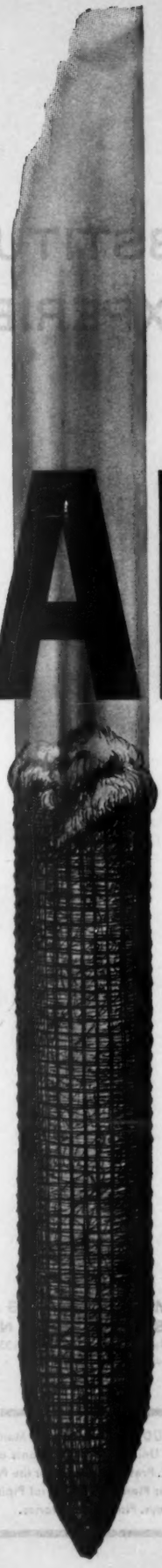

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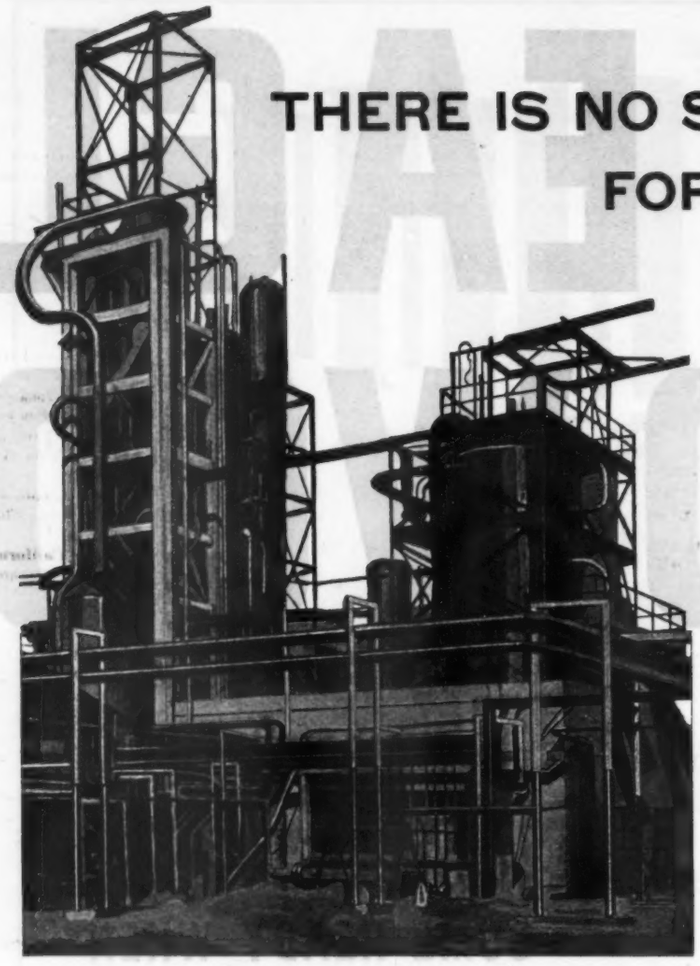

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OIL MAN'S CALENDAR

December

4-5-6—Beaumont, Tex., Petroleum Electric Power Club.

4-5-6—Omaha, Neb., Nebraska Petroleum Marketers, Inc., Hotel Fontenelle.

7-8—Fort Worth, Tex., fifth annual meeting, Independent Petroleum Association of America.

8—Okmulgee, Okla., Petroleum groups, Oklahoma Section, American Chemical Society, 2 p.m.

10—Los Angeles, Calif., California Oil and Gas Association, annual banquet and Xmas Jinks, Biltmore Hotel.

January

8-10—Milwaukee, Wis., annual convention and Equipment Show of Wisconsin Petroleum Association, Parkinson Hotel.

14-18—Detroit, Mich., Society of Automotive Engineers, annual meeting, Book Cadillac Hotel.

17-18—Minneapolis, Minn., Northwest Petroleum Association, Minnesota division, West Hotel.

February

12-14—Columbus, Ohio, Ohio Petroleum Marketers Association, annual dinner, Deshler-Wallick Hotel.

7-8—Louisville, Ky., Kentucky Petroleum Marketers Association.

March

21-23—Wichita, Kans., American Association of Petroleum Geologists, annual meeting.

April

8-13—Houston, Tex., Oil Equipment and Engineering Exposition.

11-13—Dallas, Tex., Petroleum Industry Electrical Association, Baker Hotel.

22—New York, American Chemical Society, semiannual meeting.

(?)—Wichita, Kans., Kansas Oil Men's Association.

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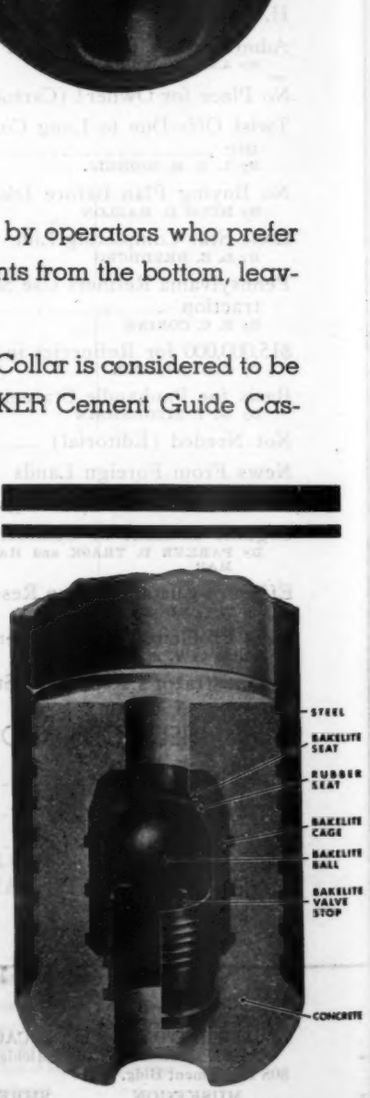

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Texas' Output Drops Below State and Federal Allowables; Better Gasoline Prices Needed

By ANDREW M. ROWLEY

FOR the first time since crude oil production allowables have been set for Texas that state, during the past week, produced less than the quantity allocated to it by the Federal Oil Administration and by the Texas Railroad Commission. The Federal allowable for November is 957,300 barrels daily. The State allowable, starting November 1, was 953,995 barrels daily, permitting East Texas to produce 407,000 barrels. However, the allowable for East Texas increases as new wells are completed and the allowable for that field the middle of this month had risen to 410,000 barrels, making the State's allowable, the middle of the month, 956,995 barrels, with a greater quantity permitted as new wells were completed in East Texas.

Of rather significant interest during the past week was the reduction in prices it pays for crude by the Panhandle Refining Company of Wichita Falls, Texas and the announcement by this company that it was placing into effect the 18.5 ratio between 36 gravity Mid-Continent crude and 60-64 gasoline at the refinery, as provided for in a section of the code for the petroleum industry. As far as known, this is the first time this ratio has been applied in determining crude oil prices by the buyer of crude.

The fact that this ratio was established from a record of prices over a period of five years, compiled and published by The Oil and Gas Journal, shows clearly there has not been the proper differential recently between refinery gasoline prices and prevailing crude oil quotations. Refinery gasoline prices have been too low and every effort should be made by the industry to correct this situation quickly. The problem is approached from the wrong angle when crude prices are reduced because there is every reason to warrant better prices for crude oil. But the small refiner cannot be blamed for refusing to pay prices for crude oil which necessitate his taking a loss on refinery operations when he is forced to sell his gasoline at so low a figure.

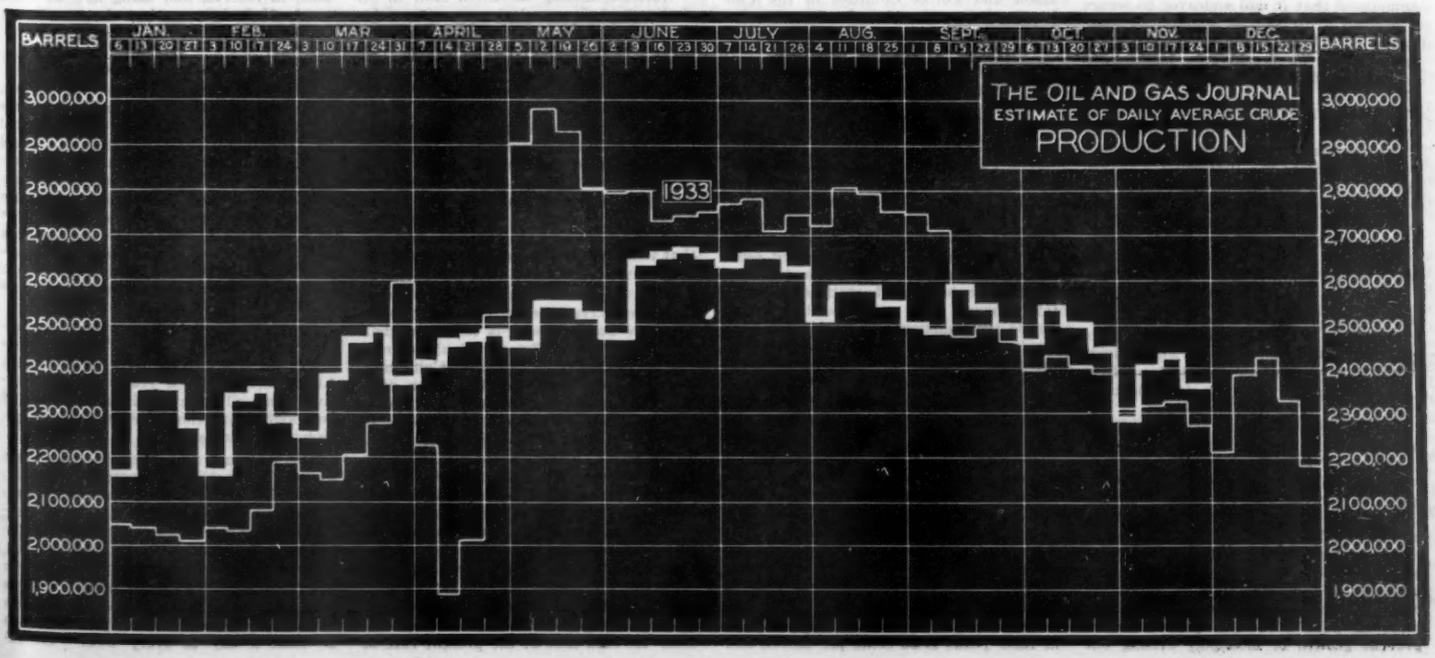
Too many people in the oil business seem to have a mania on the subject of dollar crude. That price is too low for the best interests of the industry and the public welfare. In the first place it is below the average cost of production as determined by governmental agencies. And such a price permits refinery operations which do not get the maximum gasoline yield from crude and allows the use of petroleum products, such as fuel oil, for purposes which could be supplied by other fuels. With better prices more fuel oil would be cracked into gasoline and greater quantities of gasoline, therefore, would be manufactured from less crude.

Crude Oil Production in the United States

Estimated daily average production for the week ending November 24, a comparison with previous week and the Federal allowables follow:

		Federal allowable	
	Nov. 24	November	Nov. 17
Oklahoma—			
Oklahoma City	136,525	.....	154,875
Seminole-St. Louis	85,625	.....	93,175
Remainder of State	229,525	.....	230,475
Total Oklahoma	451,675	459,300	478,525
East Texas—			
Lathrop	167,150	.....	170,600
Kilgore	129,323	.....	129,750
Joiner	125,120	.....	128,522
Total East Texas	421,593	.....	428,872
West Texas	130,396	.....	132,687
North Central Texas	81,746	.....	88,497
Texas Panhandle	55,973	.....	56,658
East Central Texas	43,378	.....	43,052
Gulf Coast—Texas	164,647	.....	166,223
Southwest Texas	59,184	.....	57,894
Total State of Texas	956,917	957,300	973,883
Kansas	122,900	125,000	123,900
North Louisiana	24,045	.....	24,045
Gulf Coast—Louisiana	81,694	.....	80,047
Total Louisiana	105,739	90,000	104,092
Arkansas	30,915	30,000	30,220
Eastern Fields (except Michigan)	102,000	96,000	103,150
Michigan	25,139	29,000	25,855
Rocky Mountain area	96,710	91,700	96,250
California—			
Santa Fe Springs	39,100	.....	40,200
Long Beach	59,650	.....	65,200
Mountain View	10,900	.....	13,700
Elwood	10,900	.....	10,600
Kettleman Hills	62,100	.....	56,500
Remainder of State	294,350	.....	308,800
Total California	477,000	462,000	495,000
Total United States	2,368,995	2,340,300	2,430,875

Decrease 61,880 Bbls. Daily.



Early Draft of Federal Control Bill Made Public at California Hearing; H. F. Sinclair Appears as Witness

H. F. SINCLAIR

By L. P. STOCKMAN

LOS ANGELES, Calif., Nov. 26.—Harry F. Sinclair, chairman of the executive committee of the Consolidated Oil Corp., and Ralph B. Lloyd, president of the Oil Producers Sales Agency of California, occupied the stand during the entire first day of the sessions of the congressional investigating subcommittee at Los Angeles and both were congratulated by the committee for their frankness.

Mr. Sinclair, who stated that he voted for the majority bill at the recent meeting of the American Petroleum Institute instead of the minority bill which endorsed the Thomas-Disney bill, told the committee he is strongly in favor of a state compact and that such a pact would be greatly enhanced if the Federal Government became a party thereto. He was equally positive that no regulation should be extended beyond the control of production and stated without equivocation he was opposed to importation of crude or refined products as he was of the opinion that American producers should be allowed to produce the raw material. He is in favor of the conservation of natural resources to prevent physical waste but is opposed to conservation designed to reduce production against use.

Mr. Lloyd also voiced objections against Federal control and approved the proposed state compact if such an agreement could be consummated. He was a little dubious whether such a pact could be agreed upon, however, but nevertheless favored this procedure above all others advanced to date.

Drastic Proposal Recalled

The congressional subcommittee has announced that it will endeavor to secure a general expression of opinion by California oil men on a bill, reported to have been drafted at Washington last spring, specifically designed to give the Federal Government unrestricted control of the oil industry. This proposed legislation was entitled "a bill to regulate commerce in petroleum and conserve the nation's supply, to create the Petroleum Administrative Board and define its powers and duties, and for other purposes." The paternity of this bill is alleged to be unknown although several gentlemen in Washington will no doubt recognise it as being rather familiar.

After the usual introduction defining its necessity and providing for "the preservation of an ample and inexpensive supply of petroleum which is an exhaustible natural resources essential to effective maintenance of both instrumentalities of interstate commerce and of national defense which are dependent upon petroleum and its products for fuel and lubrication," the bill provided that "it is hereby declared to be the policy of Congress to control and to regulate in the public interest commerce in petroleum and its products produced, refined, processed, or marketed in all or any of the several states in order to restore and maintain the normal flow of interstate commerce, to prevent premature abandonment of wells of settled production, to prevent growth of monopoly arising out of a demoralized national market for petroleum and the products thereof, to provide for national defense, to protect the nation's resources of petroleum by providing for the scientific and orderly development of new pools and fields, to protect the continued functioning of the nation's transportation facilities and to restore and to rehabilitate facilities furnished by the industry for the production, manufacture and distribution of our essential natural resources which must be conserved." In order to carry out the administrative functions the bill provided that "there is to be established in the Department of the Interior a board to be designated the Petroleum Administrative Board. The board shall be comprised of seven members who shall be appointed by the Secretary of the Interior each for a term of five years and who shall be thoroughly equipped for the duties of their respective offices by education and experience." The board will have authority "to appoint agents, make investigations and collect data of production, exportation, importation, transportation, refining, processing, marketing and consumption of petroleum or its products," and also "to assist in the effective administration of the provisions of this act, create national, state, regional and local committees of the petroleum industry."

Complete Control

In defining the duties of the board the bill further provided that "if the board shall find that there exists in the United States or in any state wasteful, unfair or improper competitive practices in the wholesale or retail marketing of petroleum or the products thereof, including undue expansion of facilities for the distribution of such petroleum, the board under appropriate rules and regulations may restrict development or construction of facilities for the wholesale or retail marketing of petroleum or the products thereof so far as necessary or appropriate in order to eliminate the said practice; establish reasonable price differentials and margins for the sale of any petroleum product in any area for such period as may be deemed necessary to eliminate destructive price cutting practices or price wars or to curb excessive prices in the public interest, upon the basis of such due notice and reasonable hearing as is hereinafter provided for."

It was further provided that "the board shall determine periodically the consumptive demand in the United States and the export demand for petroleum and any of the products thereof on scientific and impartial evaluation of all available pertinent data." The board may determine the consumptive demand which constitutes the net reasonable market demand for petroleum to be moved in commerce

(Continued on Page 20)

Disclosures About Reported "Margold Bill" Prove Feature of the Hearings at Dallas

DALLAS, Tex., Nov. 24.—The congressional subcommittee studying the oil situation concluded its week of hearings in Texas with a 220-mile automobile tour through Wheeler, Gray, Carson, Hutchinson and Potter Counties in the Panhandle, before they left for Los Angeles, where they will open hearings Monday. After spending Thanksgiving Day there the representatives will return to Ponca City, Okla., on December 3 for the governors' conference called by Gov.-elect E. W. Marland of Oklahoma, joined by Gov.-elect James V. Allred of Texas.

The closing hours of the hearings at Dallas were enlivened by disclosures concerning a proposed Federal oil regimentation bill attributed to former Chairman Margold of the Petroleum Administrative Board last spring. This projected piece of Federal legislation, had it become law, would have declared the petroleum industry affected with public interest and placed the industry completely under the domination of a seven-member board functioning under the Secretary of the Interior, with no appeal above that official. Chairman Cole produced a copy of the bill and placed it in the record.

A suggestion of regulation of oil production through a graduated Federal income tax was broached by Congressman Pettengill (Dem.) of Indiana. As he explained it, if it were decided that a well should not produce more than 30 bbls., the present oil excise tax might be stepped up from one-tenth of a cent per barrel to say 80 cents for that part of the production above that figure.

"Assuming that the cost of production in East Texas is 30 cents per barrel, and the selling price $1, that would make the excess production cost the producer $1.10," Mr. Pettengill said.

Wallace Pratt's Views

Notwithstanding increased skill in oil finding technique, relative scarcity of inviting prospects has resulted in growing difficulty in finding new oil fields, Wallace E. Pratt, vice president of the Humble Oil & Refining Co., told the committee.

In the past four years new supplies of oil have not been discovered as fast as oil from known sources have been consumed, he said. The problem of controlling production arose from the fact that known fields are capable of producing faster than the current requirements, and not that the country has too much oil from a long range standpoint.

As a matter of fact, he declared that the known reserves in relation to consumptive requirements is less now than four years ago. The principal reserves are in Texas, Oklahoma and California, with Texas having about 40 per cent. Yet Texas reserves in relation to consumptive demand were at their peak in 1931 with the discovery of the East Texas fields, while Oklahoma and California reached this peak in 1928 with the discovery, respectively, of the Oklahoma City and Kettleman Hills Fields, and that all, since those dates, have been dropping behind.

For this reason, he declared it his belief that oil production should be controlled, to the extent that the petroleum reserves should be conserved to beneficial uses. He said that at the present rate of oil consumption and recoverable by present methods and present prices, there were 10,000,000,000 to 12,000,000,000 bbls. of oil, about 10 to 12 years' supply. The rest of the world, with 20,000,000,000 bbls. in reserve, and using half as much as the United States, has about a 40-year supply in sight.

Favors Compact

In response to questions put by Mr. Pettengill, Mr. Pratt said he believed the efforts of states should be supplemented by Federal authority where state control fails. He favored the idea of an interstate compact. Waste of gas in the Panhandle of Texas he called an example of wasteful control methods and just one such example to be found. Asked for a practical solution of the Panhandle problem without regard to legal barriers, Mr. Pratt said he would operate the field as a unit.

Reserves of oil in Texas were increasing until 1930, Mr. Pratt said. Future needs for oil he estimated would reach 1,000,000,000 bbls. a year. As an executive of an oil company he said he would not favor regulation to curtail use of petroleum products.

"Isn't it just as logical to curtail uses as its production of petroleum?" Mr. Pettengill asked, and the answer was: "It seems more reasonable to me to conserve the supply than to attempt to control uses."

"The fault for wasteful methods in East Texas," Mr. Pratt said, "lies as much in the drilling of too many wells as in the curtailment of production to 28 bbls. a day to every well." He ex-

pressed the opinion that the 400,000-bbl. allowable for East Texas does not tend to reduce the ultimate recovery. He did believe, however, that a fewer number than the 15,000 wells now producing in East Texas probably would bring about a greater ultimate recovery. Such a result might not follow in all fields, he said.

Spacing Plan Favored

He agreed that properly spaced and operated, three wells would produce more oil ultimately than one well. He insisted

CHARLES F. ROESER

that controlled production offers a greater ultimate recovery.

If the East Texas Field had been drilled on a spacing pattern laid out by competent petroleum engineers he believed something around 400,000 bbls. a day would be about the proper rate of recovery from that field to yield the most oil, he said, basing his observation on reports of his company's engineers. He would hold to that belief as a measure of conservation even though consumption in the United States should double, he said.

Committee of Eleven

Handed a copy of the report of the committee of 11 of the American Petroleum Institute, compiled in 1925, in which Mr. Pratt took a part, he was asked to compare his present opinions with conclusions of that report. He agreed that there is no imminent danger of exhausting present reserves if by imminent is meant within 10 or 15 years. He expressed disappointment that no further advance has been made in developing methods to recover oil after pumping has failed.

The producing of crude oil has cost more money than all of the oil ever recovered sold for, Mr. Pratt said, and in the total money has been lost. He did not agree with conclusions of the committee that waste was negligent because, he said, new conditions and new rules now apply that whereas then there was need for drilling many wells to protect the producer no such need now exists.

Under questioning of Mr. Mapes, Mr. Pratt said he preferred control by state government but would prefer Federal control rather than no control.

Broader Than Any State

If the issues must be subject of test litigation, he said, he would favor some other course than enactment of the Thomas-Disney bill to make allocations to states and provide a manner of enforcement where states fail. He said that he had told the committee last July that the question is broader than any one state. He said that lawyers had told him that the Federal Government does not have the authority to perform the latter function of enforcing its production orders within a state.

Mr. Pratt said the nation is not in such dire need of restricted production as to invite importations nor to cut out its exports. Mr. Wolverton suggested then that there is no need for further legislation in the name of conservation.

Mr. Pratt told Mr. Cole that he believed the governors conference called by Gov.-elect E. W. Marland at Ponca City, Okla., might arrive at a satisfactory agreement for control of production, but he believed Federal co-operation would be necessary.

Jules Constantin Heard

Jules Constantin, of Tyler, president of the Independent Refiners Association of East Texas, deplored the failure of negotiations for self-government under the National Recovery Act and the petroleum code.

Joe Danciger's Opinion

Joe Danciger, vice president of the Danciger Oil & Refining Co., said attempts to limit production to consumer demand are artificial and can not work successfully. Price will operate as a stabilizer if the law of supply and demand is allowed to operate, he said. The system is wrong in principle and is causing the country to lose its export trade when it should control the trade of the world, he said. He charged that the major integrated companies have brought about such a condition in their own interests. No agency of Government should go beyond prohibiting physical waste and the Federal Government should do no more than forbid interstate shipments of oil produced in violation of state laws.

Mr. Cole told the witness that he could not reconcile the views that the state alone should regulate production while the Federal Government should divorce marketing operations from marketing. The witness said it was his view that the Federal Government should curb monopoly.

Charles F. Roeser Testifies

Charles F. Roeser of Fort Worth, past vice president for production of the

WALLACE E. PRATT

American Petroleum Institute and a member of the Planning and Coordination Committee, appeared as an advocate of Federal regulation because, he said, the industry has demonstrated during the last five years its inability to handle the situation.

He believed that governmental participation and aid to stabilize industry is inevitable under new conditions that all must agree exist. He was asked if he would favor Federal regulation of cotton production in Texas and said he would agree to such procedure if overproduction made it appear wise.

In reply to Mr. Mapes, Mr. Roeser restated an opinion that it may become necessary and wise to fix a minimum price of crude oil at the well and a minimum price on gasoline at the refinery.

He joined in criticism of the marketing branch of the industry for overbuilding of service stations.

"Why sir," he said, "we've got so many stations in this country that you could drive an automobile from here to San Francisco with a 1-gallon tank in the car."

"Margold" Bill

"You have said in your testimony that you think some of the oil men who are against Federal control are afraid of a myth, Mr. Roeser," Mr. Wolverton said, "but isn't it a fact that they are afraid of something more than a myth? Aren't they afraid of more drastic legislation; the Margold bill for instance?"

"Oh I know what you are talking about now," Mr. Roeser replied, "but I have never connected the two ideas. I heard about that bill in Washington last spring, but not as the Margold bill. It was just a proposed bill to give the Secretary of the Interior complete authority over the oil industry. I didn't take the bill very seriously and I don't know that it has prompted any change of position of oil men."

Jack Blalock, attorney representing producers opposed to Federal control, began a recital of references to such a bill that he heard in Washington last spring when Chairman Cole interrupted to say:

"I have before me a copy of that bill."

"You mean there was one?" Mr. Blalock asked.

The chairman then read extracts from

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H. F. Sinclair Gives the Cole Committee Frank Views on Petroleum Situation

H. F. Sinclair, president of the Consolidated Oil Corp., made the following statement before the Cole congressional subcommittee at Los Angeles:

With the permission of the committee it is my purpose to confine my remarks to what I consider the most important subjects to which your investigation is directed.

With regard to the subject of regulation, it is my opinion that regulation of production by interstate compact is more desirable than Federal control. Federal control would mean centralization of power in a bureau at Washington. The state compact plan decentralizes control and permits local and state governments to function.

The recent session of the American Petroleum Institute at Dallas considered two resolutions. The resolution which intended to give the Federal Government control of the oil industry was defeated. The resolution providing for interstate pacts for the purpose of conserving petroleum resources was adopted. I voted for the majority resolution, not because I believe it provides a perfect solution but because I thought it would be more advantageous to the welfare of the public and to the industry than the plan of Federal control suggested in the minority resolution.

It may be some time before the interstate compact can become effective. My contention is that every purpose for which the interstate compact is intended can be achieved by the voluntary co-operation of the oil industry in oil producing states, in making effective the existing laws and regulations of the states with the efficient co-operation of the Federal Government under Sections 9 and 10 of the National Industrial Recovery Act.

It has been suggested that the National Industrial Recovery Act is temporary legislation and that it may expire by limitation. My answer to that is that if the experience under the sections above quoted is satisfactory those sections can be re-enacted.

The question considered by the American Petroleum Institute was not whether control of production is essential but whether the control should be state or Federal. I voted for the state compact program, for the reason that its purpose is to make uniform the laws and regulations pertaining to the production of oil in the principal oil producing states and to co-ordinate state control with interstate commerce with the assistance and co-operation of the Federal Government.

If one or more states should fail or refuse to co-operate, I am advised by counsel that it would be impossible to enforce performance without an interstate agreement. The fact remains that by voluntary co-operation of the oil industry with the constituted authorities in the oil producing states and efficient operation of Sections 9 and 10 of the National Industrial Recovery Act, the objective sought to be attained by the interstate pact can be accomplished under the existing laws.

Oil Reserves

No one can actually foretell the amount of oil that the nation will eventually produce. We know that at the present moment we can produce a supply greater than the demand. It is my own opinion that we have and will have plenty of oil for future generations and for national defense.

Overproduction

There has been overproduction of oil. Further overproduction is a possibility. But by voluntary co-operation of the oil industry with the authorities of the oil producing states in the enforcement of proration laws and other regulations, co-ordinated with Federal commerce regulation under the Connally amendment, the production of oil can be kept in balance with the demand.

Economic Waste

Periods of low prices for crude would cause the abandonment of many stripper wells and lead to the consumption of petroleum for inferior uses. In most instances the wells abandoned for any considerable period cannot be restored. The abandonment of wells because of low price of crude is an immediate loss to the owners and a continuing economic loss to the nation.

It is argued that the selling of crude and oil products below cost constitutes an economic loss. On the other side it is contended that if the users of oil products buy at a low price they can afford to use more and by such use produce more power and more action at a lower cost; and that low prices of oil products, while detrimental to the oil industry, are helpful to business and commerce generally. Both positions have some merit. It must be admitted, however, that owners of the land from which the oil is produced are entitled to a just compensation for their property. The states in which the oil land is located justly contend that they should not be required to deplete an irreplaceable resource without fair compensation. Fundamentally the owners and the state in which the oil is located are entitled to compensation when they part with their property. In addition to all this, it is a notorious fact that the stockholders who own oil companies are not receiving reasonable returns on their investments. These conditions can be overcome only by a general uplift of the entire oil price structure.

Pipe Lines

Most pipe lines are in reality plant facilities for integrated companies, as well as common carriers. I am opposed to their divorcement from the chief pur-

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Oil Administrator Draws Ire of Oil Men Who Point to Inconsistencies

The Forgotten Man

Oil men who have devoted many years to building up their business; who have suffered all the hardships of long days and nights in the field under every kind of weather condition; and who have struggled during lean years to keep the business afloat and protect interests of stockholders become vehement at the suggestion that they turn this business over to control by inexperienced members of the Federal Petroleum Administration. Statements, such as that made by Norman L. Meyers, chairman of the Federal Tender Board and Executive Secretary of the Petroleum Administrative Board, that he wants low crude oil prices over a long period and that he is not interested in the price the producer gets, show plainly that the oil men who have developed this $15,000,000,000 industry would have no place in the enjoyment of the fruits of their labor, should the Federal government be given control of the business.

By ANDREW M. ROWLEY

Growing anger on the part of the oil industry at the many misleading statements being made in regard to conditions in the business reached the white heat stage during the past week as more oil men had an opportunity to read carefully the speech delivered at the A.P.I. convention in Dallas by Harold L. Ickes, Secretary of the Interior and Oil Administrator. That speech and statements made at the press conference in Dallas certainly caused the Oil Administrator to lose much support which had been accorded him heretofore by many in the oil business.

The old political ruse of coupling a known fact with something that has no connection with it has not set well with oil men and many feel it ill behooves a member of the Cabinet to make such a demagogic appeal to those in non oil-producing states who are not familiar with the real situation. As one oil company executive said: "The Secretary was not fair in his attitude when he coupled natural gas waste in the Texas Panhandle with public relief rolls. There is gas wastage in the Panhandle and there are people on relief rolls but where is the connection between the two? There is just as much connection between them as there is in the two statements of fact, 'It is raining in Tulsa today' and 'People are starving in China.'"

This man continued: "There is not anyone who would be more grateful for the turning of natural gas wasted in the Panhandle into money than operators in that area, but how can it be done? If every well in the Texas Panhandle were shut in not one person would be taken off relief rolls, in fact it is probable many might be added because of being thrown out of employment by such action.

Gas Waste and Relief Rolls

"There is a waste of gas in the Panhandle and such waste certainly is to be deplored but that waste has nothing whatever to do with relief rolls. Companies with an investment of more than $200,000,000 in pipe lines taking natural gas from the Texas Panhandle are supplying all their requirements and the waste is due, largely, to the state law which permits stripping the gas of its gasoline content and then blowing the residue into the air. Stockholders of these companies may suffer at some future time because of the present waste but prevention of this waste, if that were possible, would not take one person off relief rolls and any statement that it would is either deliberately unfair or is based on colossal ignorance."

The "mystery" of why certain companies that favored the Thomas-Disney bill when it was introduced into Congress last spring now oppose such a measure is not such a mystery since Chairman William P. Cole, Jr., of the Congressional investigating committee introduced into the record of hearings the committee is holding a copy of the bill for control of the oil industry purported to have been drawn by Federal Government employes. The only mystery seems to be why the facts in the matter were not disclosed before this.

Executives of a number of oil companies were given to understand last spring the petroleum administration was preparing a bill which would provide for complete control of the oil business. They were led to believe that the administration, rather than try to force this rigid control measure through Congress against opposition which was sure to arise, would compromise on the Thomas-Disney bill if the petroleum industry would support that measure. The companies, not desiring either form of control, were in the position of having to choose the least of the two evils and gave reluctant support to the Thomas-Disney bill.

Right Hand or Left Foot

As one oil company executive explains the situation which confronted many companies: "We were in the position of the man to whom the surgeon came and said, 'We are going to amputate either your right hand or your left foot. Now which do you prefer us to amputate?' Naturally, the patient said he preferred to have his left foot amputated. He did not want either his right hand or his left foot cut off but if he had to choose or make known his preference, he decided in favor of the lesser of the two evils.

"But since that time, the industry has had an opportunity to present its case before an intelligent, high-class committee of the House of Representatives. Oil men, most favorably impressed by the personnel and attitude of this committee, saw a chance to get a fair hearing and an intelligent consideration of the industry's problems. Naturally, the oil men presented their real views to the committee. They had not changed their minds in regard to the Thomas-Disney bill. They merely had been relieved of the necessity of choosing between two evils."

Oil Administrator Ickes' tirade against waste in the petroleum industry and his threat that unless this waste is stopped the management of the business will be taken away from oil men for good and for all has brought bitter denunciation of such statements. Oil men point out there is no physical waste in the industry except the natural gas being blown into the air in the Texas Panhandle. There is no physical waste of crude oil or of gasoline.

Stockholders Versus Consumers

Any economic waste due to low prices is a waste only to stockholders of companies and is in reality a boon to the millions of automobile owners who have bought gasoline below the cost of manufacture and distribution. In other words, as oil men point out, Secretary Ickes has charged the oil industry with a waste which does not exist and has put himself in the position of placing the interests of oil company stockholders above those of the millions of consumers of products of the petroleum industry. Of course, they point out, the Secretary did not make this clear to the thousands of consumers who are supposed to have listened to the radio broadcast of his Dallas speech.

Oil men feel the Oil Administrator was entirely inconsistent in pointing to "the marked increase in service station employment since a year ago" as an accomplishment of his administration and then flaying the industry for having so many filling stations. The Government's attitude is to increase employment but the industry is criticized for having so many filling stations. The industry knows it has too many stations, all oil men agree, but they also know and agree that the only way to cut down on the number of stations would be for owners of the stations in certain defined districts to get together and decide just what stations were needed to serve the public; what stations could be eliminated; and determine the correct representation of interests in the filling stations to be continued. And they also know and agree that the minute such a round table discussion were held each and every participant would be liable to criminal prosecution under the antitrust statutes.

In other words oil men say they are criticized by one department of the Federal Government for doing something while another department of the same government would try to send them to the penitentiary if they took the only logical course to correct the evil.

Business Stimulated

Criticism has been made of the extensive drilling in East Texas but who has suffered? Just the stockholders of companies operating in that area. This intensive drilling has provided employment for thousands of men and provided business for hundreds of factories throughout the country. There are more than 15,100 wells in East Texas. These wells had to be equipped with derricks, engines, drill pipe, casing, storage tanks and all other equipment entering into the production of crude oil. If the Government wants to stimulate business and employment why criticize something which increased employment and business and is not causing any physical waste?

Mr. Ickes' reference to an interstate compact when he said oil men "neglected to explain why similar attempts to accomplish the impossible had failed on previous occasions" was regarded as about as consistent as some other statements in his speech. Neither Congress nor the legislatures of any of the oil producing states ever adopted legislation relating to an interstate compact for the petroleum industry. A voluntary organization headed by Cicero Murray, a cousin of William H. Murray, governor of Oklahoma, was called the Oil States Advisory Committee and it held a number of meetings at which production allowables were discussed and recommended but no legislature of any of the states mentioned by the committee ever sanctioned or approved or legalized the work of this committee. The present movement for an interstate compact is under entirely different auspices. It has been endorsed by the board of directors of the American Petroleum Institute; publicly advocated by leading men representing major and independent companies; and is being pushed vigorously by the governor-elect of Oklahoma.

When Mr. Ickes tells how much he has accomplished since he had been administrator and how little oil company executives did before his reign, he causes oil men to laugh somewhat bitterly.

"Why can't he accomplish something?" one oil man asked. "He has more power and authority than any oil company or oil man ever had and he can do things no one else ever could do because of this power and authority. If we tried to do the things he has done he well knows the Department of Justice would stick us in the penitentiary for violating the antitrust laws."

Post Offices and Filling Stations

Another "meaningless" statement in Mr. Ickes' speech, according to oil men, is the reference to post offices in connection with his statement that "no government business at any time has been so wastefully and inefficiently conducted as is the oil business today." Mr. Ickes further remarked "At least the Postmaster General does not aspire to build a post office on every corner and at every crossroad."

As oil men point out, the post office department has a monopoly. If any oil company had a monopoly on the distribution of gasoline and lubricating oils there would be a big hue and cry from the motorists because of the few filling stations for any company with a monopoly, such as is enjoyed by the post office, certainly would make its stations few and far between. And when the Oil Administrator waxed eloquent in describing the architecture of some filling stations, oil men say he might have included some reference to the very costly post office buildings erected in jerkwater towns.

And they say, too, the Oil Administrator might well have told the public, when he was discussing filling stations, that a far better grade of gasoline is being sold at these stations at a far less price than buyers paid 10 or 15 years ago and this in spite of the fact taxes on gasoline have increased consistently, and that these taxes total an amount approximately 140 per cent of the refinery price of gasoline.

Also, when he is ranting about waste in the petroleum industry, oil men feel the oil administrator might well tell the public that gasoline is and has been as far back as records are kept, the cheapest of all commodities, according to figures compiled by the United States Departments of Labor and Commerce. The petroleum industry has supplied gasoline to motorists at prices always below the index average of other necessities. It might be well for the petroleum administration to read again the articles on page 11 of the September 7, 1933, issue of The Oil and Gas Journal and on page 13 of the September 28, 1933, issue of this publication.

No Place for Owner!

—Drawn exclusively for The Oil and Gas Journal

Some Drill Pipe Twist-Offs May Be Attributed to Long Column Failure

By L. G. E. BIGNELL
Petroleum Engineering Editor

In drilling wells in the Permian Basin of West Texas and New Mexico beds of rock salt varying from a few feet to more than 1,500 feet in thickness are penetrated. Most of these wells are drilled with rotary outfits and the water in the drilling mud will dissolve some of this salt from the formations creating cavities varying in depth and radius. Below the salt series relatively hard strata are found that slow up the rate of drilling and under these conditions it has been noted that twist-offs of drill stems have occurred in many wells.

The methods of preventing such failures of the drill pipe would be to keep the salt from going into solution and creating the large cavities, or using in the string of drill pipe a section of larger diameter hydraulic drill pipe that will sustain the heavy column loading that results from the unsupported section that is opposite the salt cavity, or inserting in the string of drill pipe a section of heavy hydraulic drill pipe just above the bit.

It is reported that twist-offs occur when the rotary drill pipe is in a hole that affords support in the upper section of hole above the salt formations, then little or no support in the caved salt section and support again in the drilled hole in the harder formations below the salt. The twist-off seems to coincide with the period when the drill is working in hard formations at depths of from 100 to 200 feet below the salt.

In recovering the lower section of drill pipe left in the hole it has been noted in a number of instances the fishing tool engaged the drill pipe from 50 to 80 feet below the upper end pipe remaining in the hole. This indicates the stem rests against the wall of a cave of relatively large radius. If accurate measurements were made of the total depth of the hole, the point above the bottom where the fishing tool engaged the stem and the length of stem above this point of contact between tool and pipe it might be possible to reconstruct the approximate underground conditions causing the twist-off.

Suggested Prevention Measures

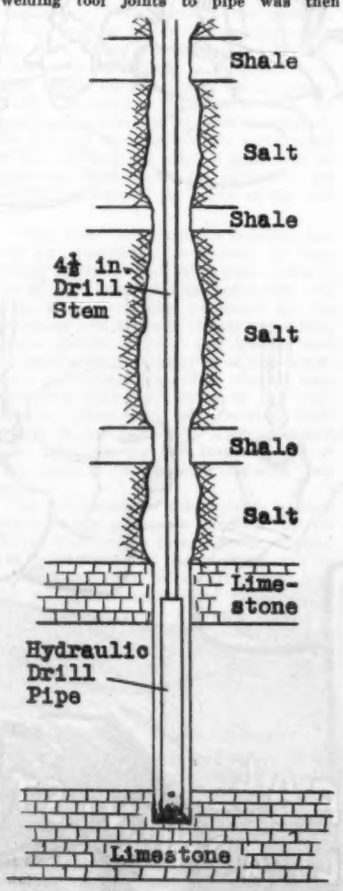
In drilling, the Gulf Production Co.'s No. 103 McElroy deep test in Upton County, West Texas, drilling below 10,856 feet, 4½-inch O.D., 16.60-pound, Grade "D" National Tube Co. drill pipe equipped with Hughes tool joints was used with 200 feet of 6⅝-inch O.D., 77.10-pound National Tube Co. hydraulic drill pipe, Grade "D," used at the bottom of the 4½-inch section of the drill pipe.

This type string of drill pipe is reported to have been developed at this test and the larger diameter pipe is used above the bit to prevent the whole string of pipe from bouncing in the hole as the bit dug into the hard formations.

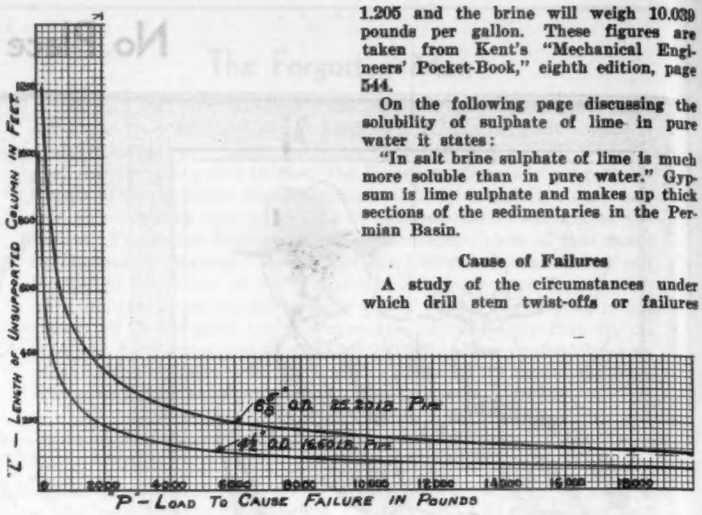
Higher up in the hole it had been noted this jumping action of the pipe tended to deflect the 4½-inch pipe and cause the bit to divert from a vertical course, and start a crooked hole. With the 77.10-pound per foot pipe on the bottom the extra weight and stiffness of this section held the bit more firmly against the formation and caused straight hole drilling.

Another feature was used on this deep test that added to the safety of the operation. The 4½-inch Hughes tool joints were welded to the end of each joint of drill pipe in such a manner as to prevent them from unscrewing but permitting the string of pipe to be made up in the usual manner. If threads in the tool joints become unduly worn they can be rethreaded in the machine shops located in the oil field town near the well.

The extra hard dolomite encountered in Gulf Production Co.'s No. 103 McElroy test between 5,800 and 7,000 feet caused fishing jobs and the practice of welding tool joints to pipe was then adopted and it is believed use of this welded stem prevented other fishing jobs and twist-offs when still harder formations were penetrated below 7,000 feet. It is reported some of these formations were so hard coring was very difficult.



Idealized section of Permian Basin salt beds showing relative position of hydraulic drill pipe on 4½-inch drill pipe



Long column failure calculated by Eilers formula and applied to drill pipe

Preventing Dissolving the Salt

In some of the wells recently completed in the Cooper Field, southeastern Lea County, New Mexico, between Hobbs and Jal Pools it is reported the twistoffs were prevented by using a 5 to 7 per cent Aquagel in water to form a drilling fluid used when drilling in the salt formations. The theory is to form a wall of mud on the face of the salt so water cannot reach it and therefore no dissolving action will occur.

This body of rock salt as recovered in core barrels or bailed out of cable tool wells is found to be relatively pure and presents a comparatively smooth surface. It is not classed as a porous formation in the usually accepted meaning of that term, but apparently it is roughened on the surface in the hole by small portions going into solution in the drilling water as the Aquagel coats the walls of the hole.

Diagram showing the effect of excessive column loading

There may be another explanation for the reported lack of caving in the lower portion of these holes drilled in the Cooper and Eunice Pools during the past summer. Drilling water has been scarce and has not been freely added to the mud. It is therefore possible mud used in penetrating the upper portions of this 1,000 to 1,200-foot thick salt body may have become saturated with salt. When water or mud is saturated with salt it will not dissolve more salt. Or if it is nearly saturated it will not pick up added salt to complete saturation as rapidly as it dissolved the first portion of the salt penetrated.

In a saturated solution of salt in water the salt equals about 26.5 per cent of the mixture and with this saturation the fluid will have a specific gravity of 1.205 and the brine will weigh 10.039 pounds per gallon. These figures are taken from Kent's "Mechanical Engineers' Pocket-Book," eighth edition, page 544.

On the following page discussing the solubility of sulphate of lime in pure water it states:

"In salt brine sulphate of lime is much more soluble than in pure water." Gypsum is lime sulphate and makes up thick sections of the sedimentaries in the Permian Basin.

Cause of Failures

A study of the circumstances under which drill stem twist-offs or failures occur seems to indicate they are due to column overloading and may be calculated by applying Euler's long column formula:

$$P = \frac{4\pi^2 E I}{L^2}$$

Where
P = load in pounds.
L = Unsupported column length in inches.
E = 29,000,000 Young's modulus for steel.
I = Least moment of inertia.
π = 3.1416.
r = Radius of gyration.

Note: This formula is good where L/r equals 200 or greater.

The principal function of the pipe used in rotary drilling is to transmit the power from the turntable on the derrick floor to the bit at the bottom of the hole. It also serves to convey the drilling fluid to the face of the bit and release it so the cuttings may be carried to the surface with the returning mud.

This drill pipe is subjected to torsional strains set up by the rotary motion imparted by the turntable and the resistance offered by the formation into which the bit is digging. Modern drill pipe will withstand these torsional strains and if properly handled the pipe will not unduly fail.

The second form of loading upon the string of drill pipe is due to its own weight and takes the form of column loading. The Euler's formula may be used to estimate the stresses set up within the pipe by this duty.

The L/r factor referred to in the footnote to the above formula is known as the slenderness ratio which is the length of the column divided by the least radius of gyration, both being stated in inches.

The radius of gyration is the property of the cross-section of a column that determines its strength. The relation of the radius of gyration, r, to the moment of inertia, I, and area of the cross-section, A, is such it equals the square root of the quotation resulting from dividing the former by the latter, or

$$r = \sqrt{I \div A}$$

Knowing these functions of the drill pipe, when acting as a column, can be calculated, and if the unsupported section is of such length as to tend to bend or buckle it is then possible to determine where the failure is likely to take place, if the smaller diameter drill stem is used, and substitute for the small diameter pipe sufficient drill pipe of larger diameter and greater strength to resist the tendency of the column to bend and fail.

In the accompanying graph the relations between load "P" expressed in pounds, and the unsupported length of 4½ or 6⅝-inch drill pipe, "L" is given.

Knowing the weight of the drill pipe

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No Buying Plan Now Before Ickes; Natural Gasoline to Have Tenders; Derrick and Rig Builders' Wage Scale

(c) Harris & Ewing.
CHARLES FAHY

By HUGH D. MALLON
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Nov. 27.—The oil administration is considering asking Congress to strengthen the Government's hand in tackling marketing difficulties, which Secretary Ickes described today as the chief sore spot in the industry.

The administrator said he thought the Government ought to have specific authority to start a counter attack in gasoline price wars by setting differentials in prices between gasoline sold by independents and that dispensed by major companies.

"It would be a valuable weapon to hold in reserve," he said. "The differential question seems to be at the heart of the price wars."

Fahy Succeeds Margold

With the appointment of Charles Fahy as chairman of the Petroleum Administrative Board the board will now have a full time chairman, replacing Nathan R. Margold, who has divided his time between being solicitor of the Department of Interior and chairman of the board. Announcement by Administrator Ickes that he would approve any legal plan for the purchase of distress gasoline, but that none has been presented to him, has about killed the chance of reviving the activities of the Program Committee. The week closed with an announcement by the Planning and Coordination Committee that a resolution had been sent to the Administrator that the committee did not concur with a recent order of the Administrator's setting minimum wages for drillers and rig builders.

Mr. Fahy has been vice-chairman of the board since its start. The new chairman, while holding the title of First Assistant Solicitor, has been exclusively engaged in the administration of the oil code since the board was appointed.

In announcing the resignation of Mr. Margold and the appointment of Mr. Fahy, Administrator Ickes said: "Mr. Margold has for a long time been desirous of being relieved from his duties as chairman of the Petroleum Administrative Board so that he could devote all his time to other responsibilities as Solicitor of the Department. Until now, however, I have held that conditions in the industry required his continuance as chairman. In view of the great improvement in the industry resulting from recent developments in the administration of the oil code, I have reluctantly granted Mr. Margold's request to be permitted to devote his undivided attention to important matters affecting the Interior Department, including the work of organizing Indian municipal corporations under the Wheeler-Howard act, and the consideration of proposed additional Indian legislation.

"Mr. Margold has been carrying a a tremendous burden in occupying two important positions with the greatest distinction. His assistance and advice have been valuable to me in the work of organizing the Petroleum Administration and of charting its course in new and exceedingly complex and difficult fields. At the same time, the work of the solicitor's office has expanded greatly, due to the addition of many new bureaus and activities. The burden, which Mr. Margold has been carrying with outstanding success, induces me to grant the partial relief he has been requesting.

"Mr. Margold will be available for consultation on important questions affecting the oil administration, but his position and active duties as chairman of the Petroleum Administrative Board will be taken over by Mr. Charles Fahy, who, as vice-chairman of the board has worked in complete harmony with Mr. Margold from the beginning of the oil administration."

Administrator Ickes refused to comment on the provisions of the reported "Margold Bill," saying he knew of no such bill. He said several drafts were submitted to Mr. Margold and the board from which was drafted the Thomas bill to regulate crude production.

Buying Program

What is believed to have been the death knell of the Program Committee's activity was struck by Administrator Ickes when in answer to the question of whether gasoline purchases might be resumed in the near future he replied that "any legally feasible plan" would be acceptable to him, but that no such plan had yet been presented to him.

Members of the Program Committee, however, stress that the program is only suspended and has not been abandoned. Resumption of gasoline buying, though, if it is resumed, is quite far in the future, as some independent refiners who have been forced to shut down their plants due to economic conditions are voluntarily returning to the allocating agencies their gasoline allocations for December. The only reason an allowable was asked for by some of these refiners was the anticipation that gasoline prices would be forced up by the Program Committee, but with that gone, the plants will remain closed until conditions improve.

The Eastern States Marketing Agreement has not yet reached Washington officials. It is still being worked out by the committee of attorneys who formulated the plan and worked it up to its present stage. Opinion of some of the men in the industry who have seen the agreement and know the contents differs.

Others believe the plan will be approved and state as their reason that Administrator Ickes is in favor of a cartel agreement to cover the entire industry. The Administrator has not made such a statement publicly, but several individuals credit him as favoring such action.

Administrator Ickes intimated today that negotiations were still going on relative to a gasoline buying program. He said that any plan submitted to him would be put before the Department of Justice for a ruling before it would be given his approval. He has no definite plan before him at the present time.

Forms Revised

The Federal Tender forms, and some of the O.E.S. forms have been revised effective December 1. The revisions simplify the forms required for the functioning of the Tender Board. Instead of filing these forms with the Division of Investigations, as has been done in the past, all forms and reports to the Department of the Interior and the oil administration from the East Texas area shall be submitted directly to the Federal Tender Board.

Casinghead and natural gasoline must be accompanied by Federal Tenders when moved in interstate commerce according to the new regulations. This product previously had not been affected by the tender requirements.

Reclamation and casinghead plants, as well as refineries, pipe lines and oil producers, must file monthly reports to the board, and railroads are ordered to file with the board daily copies of waybills on tank car movements of petroleum and petroleum products out of the East Texas areas. Maps showing all connections of refiners and other processors of crude oil shall be filed with the board, and pipe line operators must file diagrams showing their complete systems within the field.

Rig Builders' Scale

Administrator Ickes on November 8 signed an order establishing minimum wages for derrick and rig builders in Region 4, Mid-Continent area, which prescribed a minimum wage 25 cents an hour in excess of that recommended by the regional committee and the Planning and Coordination Committee. This action on the part of the Administrator, taken on the advice of the Petroleum Labor Policy Board, has drawn from the Planning and Coordination Committee a resolution stating the Committee does not concur in the action.

The committee states in its resolution that the Petroleum Labor Policy Board conducted a hearing for the purpose of giving all interested parties an opportunity to be heard and to secure all the relevant facts. The resolution states that "purportedly in consequence of the aforementioned findings, the Petroleum Administrator therein ordered a schedule of minimum wage rates for skilled rig builders and crew foremen in Region No. 4 which in all instances were $0.25 per hour in excess of those recommended by the Regional Rig Building Practices Committee No. 4 and the Planning and Coordination Committee."

It is claimed that the facts and the arguments presented at the hearing fail to establish that the recommendations for minimum wage rates are not equitable and just, and that the facts presented do not justify the higher minimum rates promulgated in the order.

Failure to give consideration to the different degrees of skill required for various rig and derrick erection and dismantlement jobs is also charged by the committee. Many of these jobs can be effectively performed by employes having only a few months training beyond that required of a common laborer and for which the payment of wages as promulgated is not justified, it is said. The order further failed to give due consideration to the practically continuous employment afforded derrick and rig building employes by employers erecting rigs and derricks for their own account.

The Planning and Coordination Committee holds also that the rights and interests of the derrick and rig users were given inadequate consideration by rig building contractors who made the minority report to the Regional Rig Building Practices Committee upon which the Petroleum Labor Policy Board are presumed to have based their recommendations to the Administrator.

It is further charged that the order not only imposes an unwarranted economic burden upon derrick and rig users, but also provides discriminatory and unfair benefits to derrick and rig building employes which threaten to disturb existing peaceful labor relations with other employes in the industry. The effective date of the order has been extended to two weeks from November 19.

Representative Allen Treadway, Republican, Massachusetts, is now preparing a general manufacturers' excise tax bill for introduction into the next session of Congress. There is a possibility that this measure might be the means of having the federal gasoline and lubricating oil taxes removed.

Pipe Line Depreciation

As a result of an investigation of depreciation charges of carriers by pipe lines, the Interstate Commerce Commission has ordered that all pipe lines subject to the interstate commerce act institute uniform depreciation accounting beginning January 1, 1936. The classes of property for which depreciation charges may properly be included under operating expenses are also listed. This property includes rights of way, line pipe, line pipe fittings, pipe line construction, buildings, boilers, engines and pumps, machine tools and machinery, other station equipment, oil tanks, delivery facilities, telegraph and telephone lines, office furniture and equipment, highway equipment and other property.

A detailed accounting system is ordered by the commission to determine the property which is properly to be charged to depreciation, the percentage of depreciation, the accounts to which the various items should be charged and accounts to be debited or credited under various circumstances. All depreciation charges shall be made monthly.

Lone Star Completing Gas Line as First Step in Expansion Program

By L. E. BREDBERG

DALLAS, Tex., Nov. 26.—About December 4 or 5 the Lone Star Gas Co. will start drawing gas from wells in the Long Lake Field, southwest Anderson County, Texas, to serve its two distributing lines and consumers in the counties and cities in this part of Texas. Gas for this area is now piped from the West Central Texas district to the northwest, and the Long Lake gas will be the first of any consequence to be taken from any wells in this section and distributed by the company.

The company has contracted with the Tide Water Oil Co. and Texas Seaboard Oil Co., joint owners of the first five wells drilled in the field, for 30,000,000 feet a day for the present. This amount may be increased if a severe winter causes a greater demand for gas in the territory. The Hunt Production Co. has one gas well about 2½ miles northeast of the Long Lake wells that might be connected later, but the original contract was made with the above mentioned companies.

The wells in this field have a high rock pressure, and tubing and casing pressure of around 2,150 pounds per well. The gas sand in the five field wells has an average thickness of 55 feet. No. 1 Monnig, the discovery well of the field, had a sand thickness of 94 feet, and the least amount of sand drilled in any well was 36 feet. The joint owners have just finished testing all the wells in the field to check their pressures and potential capacities. So far the field has only been defined in two directions, to the northwest and the southwest. The Hunt Production Co.'s gasser extended the gas producing area at least 2½ miles farther to the northeast, proving several hundred more acres to gas production for the field. Only estimates can be made as to how far this area may be extended in other directions. It is needless to say that there appears to be a large gas field here. The gas is sweet, therefore readily adaptable to the purchasers needs without expending any money on scrubbers and equipment for making it ready for use, either by domestic or commercial consumers.

The following is a log of the first five wells drilled in the area:

Number	Elevation	Top Woodbine	Casing seat	Original depth	Plugged back depth
1	227	—4,920	—5,013	—5,241	—5,071
2	231	—4,975	—4,969	—5,121	—5,029
3	219	—4,934	—4,931	—5,230	—5,031
4	230	—4,902	—5,036	—5,046	Not P. B.
	229	—4,917	—4,929	—5,060	—5,040

No. 1, the discovery well, and No. 4, produce oil and gas. The others produce gas only. The joint owners are producing the two oil wells and shipping out the daily allocation by tank cars. The gas wells have been standing shut in since their completion. The field was discovered in October, 1933. The Hunt Production Co. extension was completed only a couple of months ago.

By looking at the log it will be noted that all but five of the wells were plugged back, and that the casing seats were far above the original depth and also above the plugged back depth. Plugging back, in most instances, was done to shut off water or prevent water from breaking in. High casing seats were used in order to case off some of the gas sand, especially in the oil producers.

Welding Lone Star Gas Co.'s 72-mile 16-inch line from the Long Lake Field, Anderson County, Texas to Riesel in McLennan County. A. F. Day, head of the A. F. Day Construction Co., which has contract for laying the line, is shown at right of picture

Crews using holiday detector on pipe line

The discovery well is located 2,400 feet from the northwest line of the S. Sanchez Survey No. 11, and 4,200 feet due east of the west bank of the Trinity River. No. 2 is 1,800 feet due west of No. 1, and No. 3 is 4,500 feet south and east of the discovery well. No. 4 is 900 feet due south of No. 1, and No. 5 is 2,600 feet north and little east of the discovery well.

May Build Another Line

The field may also serve the cities of Fort Worth and Dallas, if a proposed 100-mile line, now under survey, is constructed by the company. Such a line will also contact the Cayuga Field, which is owned largely by the Tide Water Oil Co. and Texas Seaboard Oil Co. It is located in the northwest corner of Anderson County, about 25 miles due north of the Long Lake Field. There are 11 gas wells in this field owned by the joint owners, and two others owned by independent operators. So far contract for gas from this field has not been consummated between the gas company and the producers in the field. However, there have been, and there are now reports, that negotiations are taking place for it.

If the proposed line is constructed, it is expected to tie into the line now under construction, somewhere south of Turlington, running north through Freestone County, with a connecting line linking it with the Cayuga Field a short distance to the east. This line may also connect with the small gasser of the Daniels Oil & Royalty Co., south of Turlington in Freestone County. That well was completed for an initial of between 10,000,000 and 15,000,000 feet per day. If it is connected to by the gas company, the owners of the well, or other operators may drill other tests near it to define the gas producing area.

The 72 miles of 16-inch line now under construction, is one of the first major lines of the company to be electric welded. The A. F. Day Construction Co. of Dallas, contracted to lay the line and subcontracted the ditching, doping and covering to the N. A. Slaigh Contracting Co. of San Antonio.

Only a little over 7½ miles of new Republic stitch weld pipe is being laid, the remainder having been taken up in Oklahoma and other parts of Texas to be cleaned and relaid in this area. Biturine enamel dope and Biturine priming solution and Barrett pipe line enamel is being used on the line, in conjunction with Johns-Manville saturated asbestos pipe line felt, to prevent corrosion. Two men, using a W-K-M paper wheel wrap around 8,000 feet of pipe per day with the pipe line felt.

A holiday detector, a recently devised electrical instrument, is being used on this line to discover weak spots and breaks in the pipe line coating. This apparatus consists of a steel ring from which many small wires extend, forming a circle brush extending around the pipe. The brush is passed along the pipe and when one of the small wires comes in contact with a thin place in the coating, or contacts the pipe at a place where the coating is broken, the electric current, furnished by a storage battery and passing through an automobile coil, closes the circuit and sets up a "buzzing" sound because of the short. This buzz warns of the break in the enamel and dope and two men following the detector mark the spot on the pipe with a chalked circle to show where more coating is needed to cover the break, thereby insuring a thoroughly covered line throughout, with no breaks or pinholes in the enamel that would later cause corrosion to set up in the line. Crews carrying buckets of dope follow the pine-hole markers and smear the broken places before the wrapping machine wraps the pipe with the felt. After the pipe is wrapped it is ready to be lowered into the ditch and covered.

Many Streams Crossed

Gangs are working on both ends of the line and heavy rains have caused some delay of recent date. Two rivers and many creeks have had to be crossed by the line, the largest creek being the Keechei Creek in Freestone County. The largest river crossing was just west of the Long Lake Field on the Trinity River. A drag line had to be used to cut out approach ditches in the 47-foot banks and 750 pounds of nitroglycerin were used in "shooting" a pipe trench in the

(Continued on Page 20)

Pennsylvania Refiners Use Solvent Extraction in Manufacturing Lubs

By ROBERT C. CONINE

OIL CITY, Pa., Nov. 27.—Refinery modernization in the Pennsylvania Grade crude oil region shows two distinct phases, the first directly involving the economic position of high priced raw material processors in competition with comparatively low priced crude refiners, and the second, just beginning, involving the iconoclastic thesis that the region's "premium" motor oils can and must be improved in response to the challenge of solvent extracted Mid-Continent lubricants.

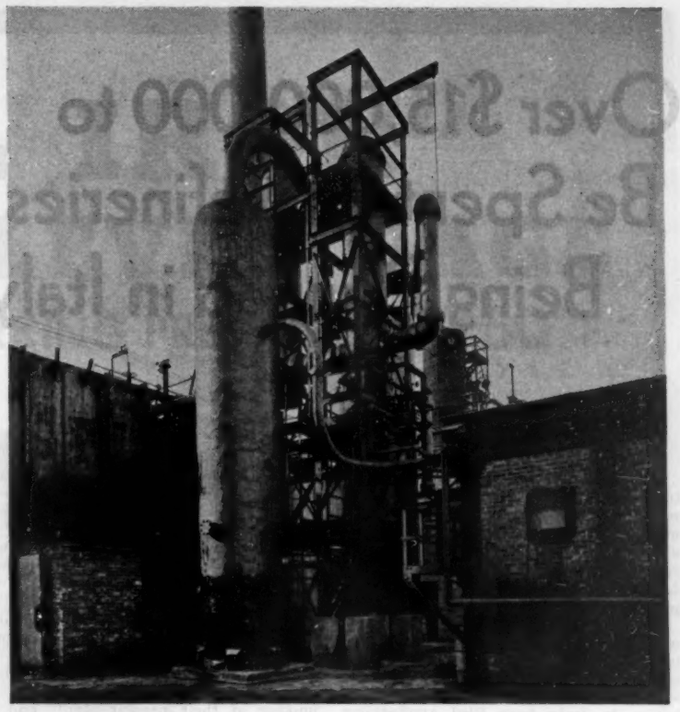
Some time ago independent refiners in the Appalachian district became convinced that their days as important factors in motor oil manufacture in the country were numbered unless steps were taken immediately to reduce operating costs to a minimum. Fractionating and rerun towers replaced cheese box stills, supercentrifuges replaced cold settling tanks, wax presses succeeded the largely manual methods for neutrals. Cracking and reforming installations appeared to convert the region's gasoline into an asset rather than a liability. In this period these refiners spent close to $6,000,000 in this phase of modernization, and the work continues unabated. Not only have actual operating costs been reduced considerably, but entirely new markets have been opened for products made possible by the new installations. Special naphthas, high antiknock gasoline, special kerosene and fuel oil cuts, and a wider range of lubricating oils and greases are making the prospects for the region brighter.

Oils Can Be Improved

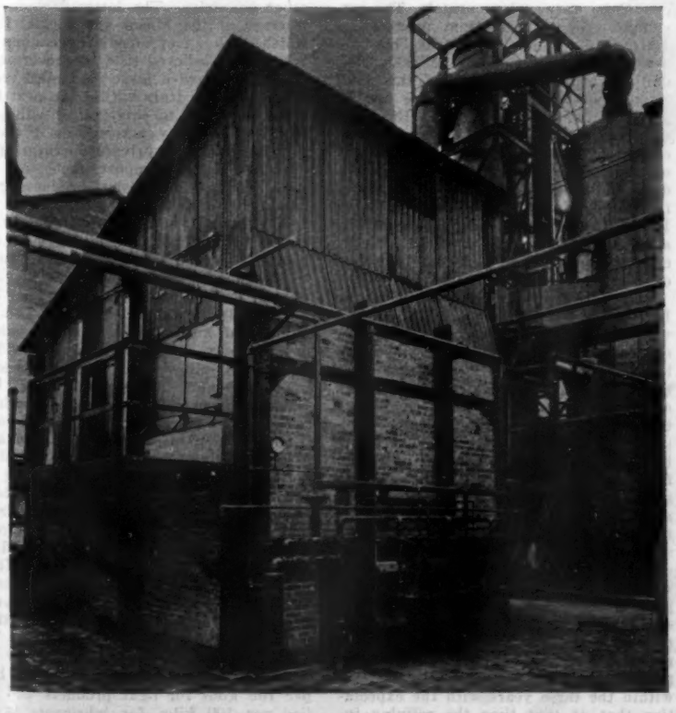
The second phase, involving as it does a tacit admission that Pennsylvania Grade motor oils can be improved, passes from the rumor and report stage next week for the old Oil Creek district when the Pennzoil Co of Oil City announces that since June 1 the company has been treating 1,000 bbls. a day of motor oil in its chlorex solvent extraction plant to improve to a considerable degree the qualities long associated with the lubricants of the region.

The refinery members of the Pennsylvania Grade Crude Oil Association have known for more than a year that they must eventually go to solvent extraction to maintain their position as premier motor oil producers. They have viewed with growing interest and perhaps a little apprehension the steady improvement made in western lubricants, and as claims of duplicating the quality of the Pennsylvania materials became more nearly demonstrable in the laboratory, the grade oil refiners found that there was no escaping the fact that the position of their lubricants as premium products was in danger.

Refiners of Pennsylvania Grade crude oil started to investigate and within a few months they were sponsoring an intensive series of experiments in the refining laboratory of Pennsylvania State College. Research technologists and practical operating engineers worked to ascertain the revised status of the region's motor oil manufacturers and to find methods of processing which would advance the quality of Pennsylvania Grade lubricants. The results of this work at State College showed definitely that Pennsylvania Grade motor oils could be improved considerably by solvent extraction. Hundreds of solvents have been "run" in single batch, multiple batch, single continuous, and multiple continuous tower installations in the refining laboratory of the college.



An old reforming tower was cut in two and converted into this efficient unit for recovering chlorex from Pennzoil's treated motor oils



Two coil pipe still used in conjunction with the new chlorex plant

It is generally conceded by refiners in the region that the decision of Pennzoil to treat every quart of its lubricating oils with chlorex has brought to an immediate issue a development which has been maturing slowly and with considerable opposition since the work at State College was initiated. An indication of the revolutionary changes which may be expected in the region and which are hastened by the action of the Pennzoil Co., appears in the recent statement of the board of directors of the Pennsylvania Grade Crude Oil Association on the occasion of a meeting of refinery technologists called by the association. The directors said, "The rapid development of solvent processing in the Pennsylvania region has caused refiners to consider the necessity of improving the standards for emblem oils. It is possible that several meetings may be held before the proposed new standards are finally established."

May Use Second Emblem

The use of a second association emblem has been seriously proposed to be applied to solvent extracted Pennsylvania Grade motor oils which are shown by rigorous engine tests and laboratory determinations to merit special distinction. While there is little expectation that any "official" decision will be reached by the association before June 20-21, the dates of the annual meeting at State College, Pa., it is already evident that a number of refiners in the region have decided not to be caught napping in the matter of solvent extraction.

Frankly, Pennsylvania Grade refiners were until recently unimpressed by the claims of "outlanders" who said that their motor oils could be made to equal or surpass their own. The attitude of these refiners might be described thus: "We have been making the best lubricants on the market with our old batch stills and other venerable equipment, but quantity competition, affecting price, forced us to reduce our operating costs. After modernizing our plants we could maintain a fair price differential and continue to exist, at least until times got better. Now our position as manufacturers of 'the world's finest lubricants' is being challenged by refiners of western crudes who have developed special processes which eliminate poor lubricating components from their motor oil stocks and produce a better quality material. Now it is up to us to keep ahead of the parade by adopting the methods of our competitors. We believe we have the advantage of starting with a superior product."

To obtain a considerably increased viscosity index, in the interests of lower consumption, easier starting and greater safety at high operating temperatures, the Pennzoil Co. is sacrificing by its removal a substantial percentage of the motor oil processed. The discarded portion of the oil has a viscosity index of 20, still considerably higher than untreated Gulf Coast lub stocks. The chlorex treated oil has a resistance to sludging more than three times greater than that of the untreated oil, and the Conradson carbon content has been reduced by half.

The success of solvent extraction outside of the Grade oil region convinces many of the progressive refiners of that region that the public's conception of motor oil, under the influence of advertising, will undergo drastic revision within the next few months, and the refiners who refuse to meet these changed conditions by changing over to the manufacture of lubricating oil "specialties," not mere motor oils, will have to change their tactics.

The next step, it is indicated, is solvent dewaxing, but this involves the junking of millions of dollars worth of equipment and resistance to this change will probably be much greater than that which marked the first stages of solvent extraction in the Pennsylvania Grade crude oil region.

Over $15,000,000 to Be Spent on Refineries Being Planned in Italy

By C. O. WILLSON

Plans to develop a refining industry in Italy to supply the bulk of the domestic requirements for petroleum products, which have been under way for over a year, have assumed definite form in recent weeks and it is expected that before the end of the year construction programs will be announced.

In line with recent regulations for executing a law which became effective in February of this year several companies which desire to operate refineries or import petroleum products for distribution in Italy have filed applications for licenses. Import license applications have been filed by all companies that have established outlets in Italy with a number of applications from additional concerns which are hoping to secure a share of the increasing demand for petroleum products in that country.

To Spend $15,000,000

In regard to refineries it is estimated that between $15,000,000 and $20,000,000 will be spent during the coming year in building new plants and modernizing and enlarging plants already in operation. It is known that certain companies which at this time either have refineries and distribution in Italy have had representatives in Italy preliminary to working out details in regard to their construction programs.

The principal distributors of petroleum products in Italy are the subsidiaries of the Standard Oil Co. (New Jersey), the Royal Dutch-Shell and the government controlled company, Azienda General Italiana Petroli (A.G.I.P.). The Standard company through the Societa Italo Americana del Petroleo and the Shell through the Nafta and the Italian company, each have refineries in Italy of relatively small capacity. The Standard and Shell units will enlarge their present refining capacities. The Socony-Vacuum Oil Co., Inc., through subsidiaries, is an important distributor in Italy and it is known that this company has plans for the construction of a refinery. The company recently acquired the Benit refinery of the Societa Anonima Benzina Italiana.

Most of the refineries now operating are small skimming or cracking plants. Some companies refined the light oils and heavier fuels at plants located in Italy but imported their lubricating oils and special products. Under the new government plan it will be to the advantage of these companies to refine all the products they sell in Italy and due to that fact it is known that certain companies are planning to widen the scope of their operations. Two companies are reported to be considering the junking of their present plants and to build complete new plants.

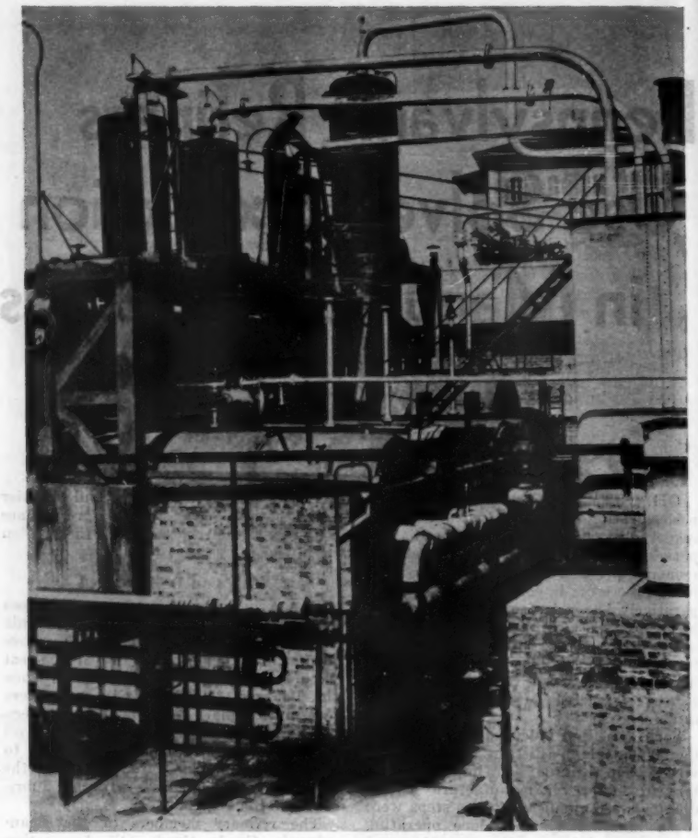
It is also anticipated that there will be changes in the positions of operating companies. In order to justify the construction of plants it will be necessary for certain companies to enlarge their sales in Italy. Other companies not wishing to make the additional capital outlays for refinery construction are expected to sell their properties. The Gulf Oil Corp., which has been an important distributor in Italy through the Unione Importatori Lubrificani, has sold its interests. Both the Socony-Vacuum and Shell have been reported as buyers of the Gulf properties. Another report states that the Standard of New Jersey and Socony-Vacuum may combine their operations in Italy under a joint management with one complete refinery to be built. Texas Co. and three or four other American companies are importers in Italy.

There is still some confusion as to just how the government expects to carry out several phases of its program and it is not expected that officials will be in a position to pass on the licenses immediately so that actual construction work may be postponed for several weeks. The government has indicated in approving applications that so far as possible it will favor those companies already established in Italy with production, refineries or distributing facilities. The regulations which are included in this discussion provide that applications for licenses must include location, size, type of plant and all the other detailed data pertinent to refinery construction and operation and in line with the government's program.

DUTIES AND TAXES IN EFFECT ON CRUDE OIL AND REFINERY PRODUCTS IN ITALY (Values in lire per 100 kilos)

	Gasoline		Kerosene	
	Locally refined	Imported	Locally refined	Imported
Duty	.....	12.00	.....	12.00
Sales tax	161.00	161.00	93.00	93.00
Statistical tax	.....	.30	.....	.30
Port tax	.....	.15	.....	.15
Landing tax	.....	.25	.....	.25
Total per 100 kilos	161.00	173.70	93.00	105.70
15% ad valorem @ $.0625 c.i.f. per gal.	.....	.....	.....	.....
15% ad valorem @ $.0525 c.i.f. per gal.	.....	.....	.....	.....
Turnover tax @ lire 2.50 per lire 100 (on c.i.f. value)	.....	.66	.....	.50
Total per 100 kilos	161.00	174.36	93.00	106.20

	Crude oil		Lubricating oil	
Duty	.....	.....	.....	25.00
Sales tax	.....	.....	55.00	55.00
Statistical tax	.....	.03	.....	.30
Port tax	.....	.15	.....	.15
Landing tax	.....	.25	.....	.25
Total per 100 kilos	.....	.43	55.00	80.70
15% ad valorem @ $1.60 per bbl. c.i.f.	.....	.....	.....	.....
15% ad valorem @ lire 300 per bbl.	.....	.....	.....	.....
Turnover tax @ lire 2.50 per 100 lire (on c.i.f. value)	...	.32	.....	3.75
Total per 100 kilos	....*	.75	55.00	84.45



Battery of stills at the Fornovo Taro (Parma), Italy, refinery of the Societa Petrolifera Italiana. Building shown in rear houses main offices.

Refinery Requirements

Since the government's plans first became known the question is frequently asked what the refinery requirements in Italy will be. With some details of the program yet to be announced and the final plans of three or four of the larger companies not announced, this question cannot be answered accurately. The consumption of all petroleum products in Italy totals about 12,500,000 bbls. annually or approximately 33,000 bbls. daily. About 30 per cent of this total is gasoline, 9 per cent kerosene and 55 per cent fuel oil and gas oil. Based on the gasoline demand, refineries with cracking equipment having a total crude oil capacity of 18,000 to 20,000 bbls. daily could readily furnish all the motor fuel needed for domestic consumption in Italy. This does not take into consideration the requirement that the refinery capacity must be 30 per cent in excess of current requirements.

The large fuel oil requirements of the Italian navy and other marine demand, which have played an important part in the decision to develop a domestic refining industry, are relatively larger than the demand for other petroleum products and this fact probably will complicate the refinery construction program. Companies building new refineries or rebuilding those which have been in operation for several years will naturally wish to secure as efficient operation as possible, and in doing so there will be a tendency to secure large yields of gasoline at the sacrifice of fuel oil output. This is one of the problems which the government will endeavor to solve in approving applications for licenses covering the construction of refineries and the importation of petroleum products. Under the plan as now outlined, the importation of petroleum products will practically end within the three years with the expectation that at that time the refining industry will be in a position to supply all domestic requirements with any surplus to be marketed in export channels.

Bounties on Crude

It is also understood that the matter of crude supplies for the refineries will receive consideration by government officials. The government, through bounties, has been endeavoring to increase domestic crude oil production, and through a government controlled company it also hopes to develop supplies in other countries. The latter includes an interest in the Mosul Oil Fields, Ltd., which has undeveloped concessions in Iraq. It is believed that the government expects to have a large controlled crude supply outside Italy within the next few years, and due to this fact it will protect itself in any agreements it makes at this time with private operators permitting them to import crude oil for local refineries or finished products from outside refineries.

The bounty now given producers of crude oil in Italy is indicative of the lengths to which the government is going to develop a petroleum industry. The present production, averaging around 700 bbls. daily, is obtained from a large number of small wells, some of which produce only a few gallons daily. The government allowed the producers a substantial bounty for several years, but this was dropped under a new law which became effective February 7 of this year. There were numerous protests and last summer a royal decree was issued retroactive to February 7 establishing a bounty of 65 lire per 100 kilos, which amounts to approximately $7 per American barrel of 42 gallons of light products (gasoline and kerosene) obtained in processing crude oil obtained from Italian fields. In addition there is a bounty of about 20 lire per 100 kilos (approximately $2.75 per barrel) for lubricating oils refined from Italian crude oil. To develop possible substitutes for crude oil it is understood that a bounty of 80 lire per 100 kilos for light products and 25 lire per 100 kilos for lubricants is to

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"ALL IRON" LIQUID LEVEL GAGE

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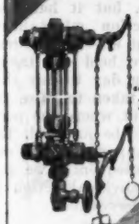
Automatic Injector

Ejector, Syphon or Jet Pump


"Navy Type" Liquid Level Gage

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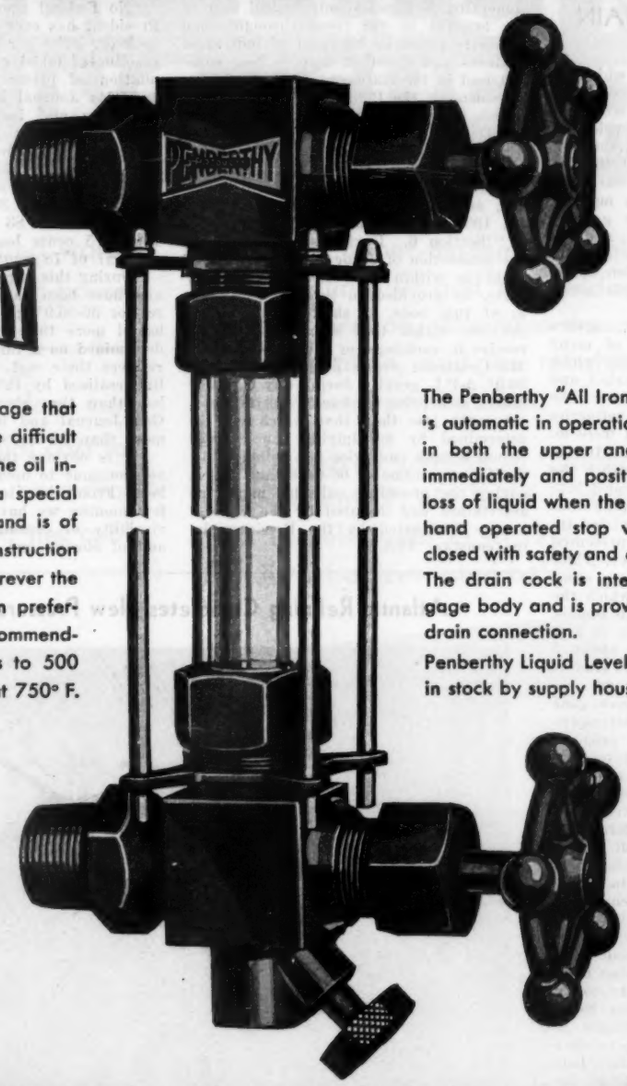
HERE is a liquid level gage that is ideally suited to the difficult service requirements of the oil industry. It is made from a special high strength alloy iron and is of exceptionally rugged construction throughout. It is used wherever the liquid handled makes iron preferable to brass, and is recommended for working pressures to 500 pounds per square inch at 750° F.



The Penberthy "All Iron" Liquid Level Gage is automatic in operation. Ball check valves in both the upper and lower body close immediately and positively to prevent the loss of liquid when the glass is broken; the hand operated stop valves may then be closed with safety and a new glass inserted. The drain cock is integral with the lower gage body and is provided with thread for drain connection.

Penberthy Liquid Level Gages are carried in stock by supply houses everywhere.

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Inconsistency Between Present Gasoline and Crude Prices Is the Basis for Panhandle Statement

By W. T. ZIEGENHAIN

Reviewing the reasoning by which the framers of the oil code arrived at a price which producers should receive for their crude as 18.5 times the price the refiner receives for his gasoline, the Panhandle Refining Co. announced that effective November 22 it would start paying for its crude on that basis but also let it be known that "if the gasoline purchasing plan is reinstated and we are able to sell U. S. Motor gasoline for as much as 5 cents a gallon before the next date of settlement, this notice will be of no effect."

The complete announcement appears to clearly define the position of many Mid-Continent refining companies which might be classed as well established and independent. Scattered throughout the Mid-Continent are some 200 refineries which were built years ago and were located near new producing fields. In the normal decline of production within the local field, pipe lines were extended into newer areas until a network of pipe lines existed. This group of closely related independent refining companies represented the Mid-Continent refining industry. Their operations were keyed up to pay a minimum of $1 a barrel for crude which the producer stated was necessary to remain in business and on this basis it is necessary that the refiner receive about 5 cents a gallon for his gasoline. Had it not been for the East Texas Field, this arrangement probably would have gone on unchallenged. The oil code attempted to fix the Mid-Continent crude price at $1. This has been accomplished to date through the willingness of this group of refiners to absorb what they hoped would be a temporary loss. At first they placed their hopes upon the Federal control of crude production in East Texas. This failing, they relied upon the gasoline buying program to maintain prices at 5 cents or better. The suspension of that program has left them with little to do but reduce the cost of their crude.

The accusation cannot be made that their plants are not modern or that their methods of refining are obsolete for a simple analysis of refining costs based upon actual present day experience in one of the largest and most up to date plants indicates a loss of 15 cents a barrel even before charges are made for overhead, depreciation, taxes and other indirect items.

Refinery Revenue

A typical revenue per barrel statement from such a plant would appear as follows, the prices for the various products being representative of the current spot market. Actually, however, the price received by a majority of Mid-Continent refiners is below the spot price because of the practice of guaranteeing jobber margins which today net the refiner from 1 to 2 cents below the spot price. Despite this factor and assuming all material is moved on spot and that the plant and method of operation are modern, the skimming plant even though it is equipped with cracking equipment will show a loss.

To pay the normal indirect charges a profit margin of 25 to 40 cents a barrel would have to be realized. With this condition obtaining in the Mid-Continent generally, it appears only logical that it be brought to the front through some concrete action on the part of individual refiners and the first step is best summarized in the statement of R. B. Jones, president of the Panhandle Refining Co., which follows:

"To Producers From Whom We Are Purchasing Crude Oil:

"Article 3, Section 6, of the code of fair competition for the petroleum industry, as signed by the President, August 19, 1933, read in part as follows:

"'Section 6. During such periods as the production of crude petroleum in any state is within the allocation to that state, as provided in Section 3, Article 3, of this code, it shall be an unfair practice within that state to buy, sell, receive in exchange, or otherwise acquire Mid-Continent crude petroleum of 36°-36.9° A.P.I. gravity during any calendar month at a price per barrel (to the nearest cent) less than that which will be determined by multiplying the average Group 3 tank car price per gallon of U. S. Motor gasoline of 60-64 octane rating during the preceding calendar month as ascertained and declared by the Federal agency designated by the President by the constant 18.5.

"No Federal agency designated by the President has ever declared the Group 3 tank car price per gallon of U. S. Motor gasoline of 60-64 octane rating. A compilation of prices taken from The Oil and Gas Journal by weeks from January 2 to and including November 13, 1934, shows that the average price of this grade of gasoline during that period was 4.512 cents, which multiplied by 18.5 (the constant provided in the code) produces a price for 36-36.9° gravity crude in Oklahoma of 83 cents, and for North Texas (5 cents less as posted by purchasers) of 78 cents.

"During this period purchasing companies have been paying 95 cents per barrel for 36-36.9° gravity, or 17 cents per barrel more than the amount that was determined as a fair price to return the refiners their cost. The price for gasoline realized by this company has been less than that shown by The Oil and Gas Journal and its loss has averaged more than 20 cents per barrel.

"It is obvious that the company cannot continue to operate at such a heavy loss. From time to time over the past few months we have considered the advisability of ceasing to purchase crude and of closing our Wichita Falls refinery, rather than to disturb the established crude oil price, but it has been decided that such action might leave some producers without any market temporarily, and we have held on, taking the losses, hoping from day to day that some action would be taken to raise the gasoline price to a point where the posted price of crude would be justified. The efforts made in that direction have one by one failed, and consequently we feel we must take some individual action in the interest of self-preservation.

Price Low

"A compilation of the Group 3 (Oklahoma) price of U. S. Motor gasoline of 60-64 octane rating for the preceding calendar month (October) using the daily prices shown both in the 'Oilgram' and 'Journal of Commerce' gives an average price for that grade of gasoline during October of 4.3945 cents per gallon. This price multiplied by 18.5, the constant provided in the code, produces a price of 81 cents per barrel for crude oil of 36-36.9° gravity for Oklahoma, and 76 cents (5 cents less) for North Texas.

"Effective 7 a.m., November 22, 1934, we will adopt a schedule of crude oil prices, based upon this calculation, with a variation of 2 cents up and down for each degree of gravity, which makes the schedule as follows:

	Cents
Below 29 gravity	60
29 to 29.9 gravity	62
30 to 30.9 gravity	64
31 to 31.9 gravity	66
32 to 32.9 gravity	68
33 to 33.9 gravity	70
34 to 34.9 gravity	72
35 to 35.9 gravity	74
36 to 36.9 gravity	76
37 to 37.9 gravity	78
38 to 38.9 gravity	80
39 to 39.9 gravity	82
40 and above	84

"This schedule will be in effect for the remainder of November. As soon as possible after December 1 (about the third) the gasoline price of November will be compiled in like manner and a new schedule of prices for crude oil for December, made in accordance with the formula given herein and in the code, will be announced. If, however, the purchasing plan should be reinstated and we are able to sell U. S. Motor gasoline for as much as 5 cents per gallon, basis Group 3 (Oklahoma) before the next settlement date, then and in that event no change will be made in the present schedule of prices and this notice will be of no effect. We hope that this result may be realized. The present price of crude is not too high, in fact it is not high enough for this district, but it is out of line with the price of gasoline.

"We shall entertain no feeling of criticism towards any producer who finds a market at a better price. We anticipate that our action may result in closing our Wichita Falls refinery for lack of oil, but it will have to be closed if we continue to try to pay a price greatly in excess of that which can be realized from the products.

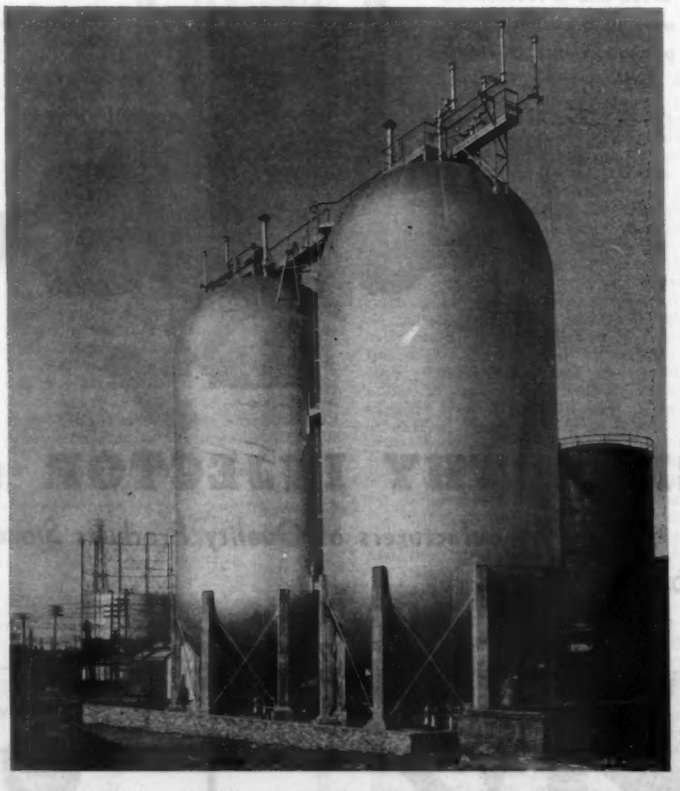
"We consider it wiser to close for lack of oil, if that becomes necessary, rather than to wait until economic conditions force us to do so.

REPRESENTATIVE REVENUE PER BARREL STATEMENT USING MOST FAVORABLE YIELDS AND SPOT PRICES WHEN REFINING MID-CONTINENT CRUDE

Products from each barrel of crude—	Spot price	Revenue
25% gasoline, 53 octane	3⅜	$.394
35% gasoline, 64 octane	4½	.662
5% kerosene	3⅛	.066
6% furnace oils	2⅞	.072
22% fuel oil, bbl.	65	.143
6% gas (value figured on 40-cent fuel oil)		.024
1% loss		
Total		$1.361
Posted price 36 gr. crude (bbl.)	$1.00	
Gathering and delivery	.15	
Refining cost	.36	
Bare operating cost	$1.51	$1.51
*Loss		$.15

*Loss per barrel before paying indirect charges 15 cents a barrel.

Atlantic Refining Completes New Pressure Storage



Two 8,500-bbl. welded pressure tanks recently completed at the Point Breeze, Pa., refinery of the Atlantic Refining Co. These will store "Stabilite" and will be kept under a pressure of 35 pounds. The shell is 34 feet in diameter and stands 64½ feet high. They were supplied by the Chicago Bridge & Iron Works

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ADD up the cost of your boiler fuel and water, and you may find that Diesel-electric power is much cheaper per foot of hole drilled.

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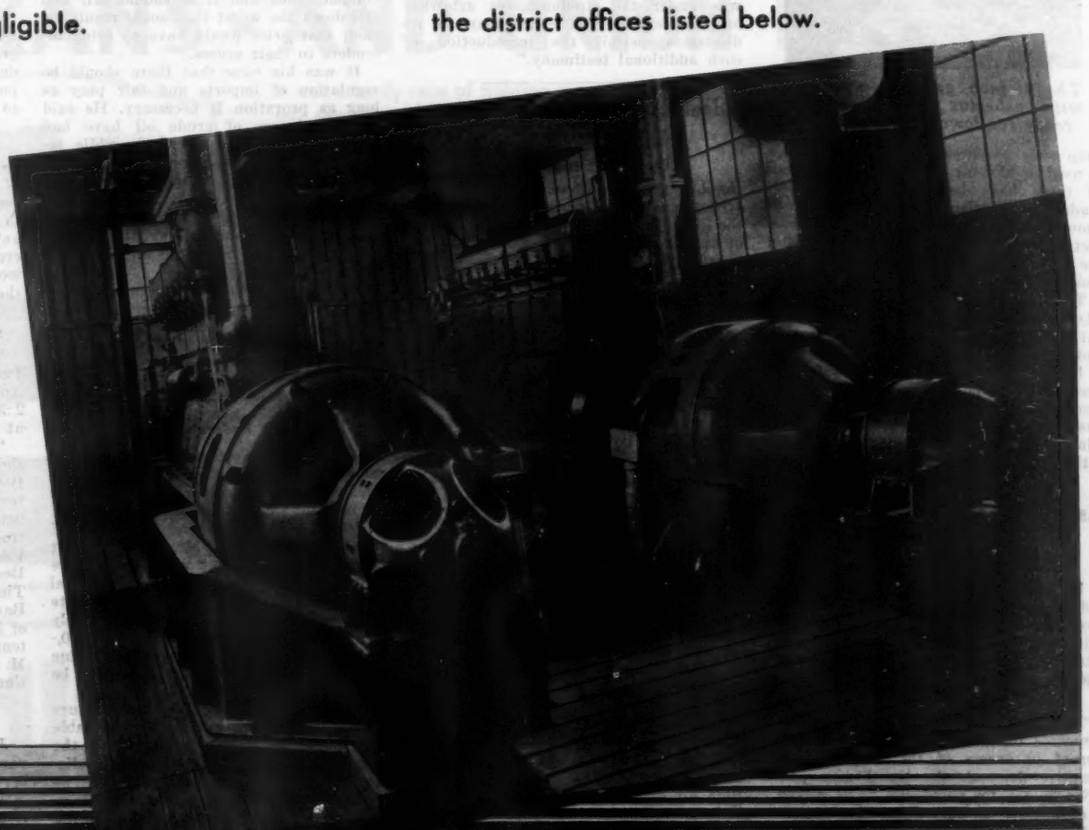
Why not avail yourself of Cooper-Bessemer's fund of experience? We build a complete line of oil-field Diesels from 35 to 1200 H. P. Write any of the district offices listed below.



14 WELLS have been drilled at low cost by the twin power plant illustrated. Dependable power for the draw works, rotary table, and mud pumps is supplied economically by two Type FP-6 Cooper-Bessemer Diesel engines rated 242 H. P. each at 514 r. p. m. and direct-connected to two 219 K. V. A. generators.

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Lone Star Gas Company Completing Gas Line

(Continued from Page 14)

bottom of the river. Fifteen river clamps, each taking 16 bolts were placed on the line at this juncture to weigh and hold it firmly in place at all times. Two days were consumed in making this river crossing, but the crews were lucky to get the work done before heavy rains raised the river. The Navasota River crossing, on the west end of the line, will be more difficult to lay due to rains swelling this stream during the past two weeks.

Start of Construction Program

Two welding crews, consisting of nine men each, are doing the welding. About 50 miles of the line have already been welded, and if the weather permits, the fore part of next month will see the line tied in and ready for use. After each day's work each weld is tested with

The 16-inch gas line, wrapped with asbestos pipe line felt, ready for lowering into trench

soap suds to check for "pin-holes." Air is used in blowing the pipe for this test. If there have been any faulty welds made and overlooked, this testing will show them up so that they can be corrected before the dope is applied and the pipe is placed in the 34-inch ditch and covered.

The line is said to be first of a $2,000,000 program of construction laid out by the Lone Star Gas Co. for this and next year. The western terminus is to be at Riesel in McLennan County, the line passing through Freestone and Limestone Counties. Three miles of 10-inch line are to be laid from the eastern terminus of the main line to connect with the wells in the Long Lake Field.

Early Draft of Federal Control Bill Made Public

(Continued from Page 8)

in between and among the several states and with foreign nations from any state, pool, field, lease or property or storage unit refining or processing plant, central point of distribution or other source of supply.

Quota Provision

"In order to prevent the movement in commerce of petroleum or the products thereof in excess of the national consumptive demand, the board may prescribe quotas for petroleum to be moved in commerce. In this connection consideration shall be given to requirements of trading areas and customary sources of supply for such areas; changes and trends in respect to trade areas or sources of supply; volume of business, business policy, operating conditions and potential capacity of refineries and of other sources of supply; state laws of conservation for the regulation and allocation of production; location, quality and distribution of ownerships of stored oil as well as situation and requirements of owners; reserves, potential production and other physical and economic conditions of fields, pools, wells, leases or properties constituting sources of supply of petroleum and any other factors which may be deemed necessary by the board to make fair and equitable distribution among sources of supply.

In order to regulate commerce the bill provided that "the board may prescribe and require certificates of clearance for petroleum and designated products thereof in such areas and at such times as may be deemed necessary under appropriate rules and regulations and while such order of the board is in effect no carrier shall receive or transport petroleum or any product so designated by the board without an appropriate certificate of clearance."

The bill provided that violations shall constitute a misdemeanor and provides penalties and rights of appeal under certain restrictions although it is specifically declared that "neither a temporary nor a permanent injunction suspending or restraining the enforcement, operation, or execution of any act done by or under authority of the board under this act or under color of the provisions of the act shall be issued or granted." It was further provided that "any person affected by any decision, rule or regulation of the board herein authorized shall have the right of appeal to the Secretary of the Interior who may stay the operation of such decision pending hearing of the factual and legal issues involved in such proceeding upon an adequate showing being made and shall review any problem of fact or law involved. The decision of the Secretary of the Interior shall be conclusive and not subject to review by any court provided that upon showing being made that new and additional evidence can be adduced which evidence demonstrates that the action of the board was under the circumstances arbitrary or unreasonable the court may in its discretion permit the introduction of such additional testimony."

Disclosures Feature Hearings at Dallas

(Continued from Page 9)

the bill that he offered for the record. It began with a declaration of policy on the part of Congress proposing control of the oil industry in the public interest.

Mr. Wolverton observed that in his testimony before the committee, Mr. Margold expressed the opinion that under similar conditions like regulatory methods might be applied to other industries.

"It would seem," Mr. Wolverton said, "that they might as well provide for requirement of certificate of convenience and necessity."

President Byles' Recommendations

President Axtell J. Byles of the American Petroleum Institute offered the following recommendations:

"There is no imminent danger of a shortage of petroleum in this country.

"Notwithstanding this there can be no justification for uneconomic and wasteful practices incident to its production.

"The police powers of the states are adequate and exclusive in relation to production and conservation of crude oil.

"The welfare of the states themselves, as well as the national interests, indicate the advisability of a co-ordination of the efforts of the oil producing states, the Federal Government, and the industry toward attaining and maintaining a reasonable balance between production of crude oil and consumer demand for its products.

"This can best be attained by the appointment of a committee, representative of each oil producing state and of the Federal Government, to study, deliberate upon, and recommend proper action to the several producing states as to methods and amounts of production of petroleum. Such a committee could be set up under the procedure known as 'interstate compacts.'

"The Federal Government should enact permanent legislation to prevent interstate transportation of crude oil, and products manufactured therefrom, produced in violation of state laws. That the Federal Government should also regulate the importation of crude oil, and products thereof, to maintain a fair relationship to domestic production may be curtailed to balance supply and consumption.

"It is my hope and belief that were such a committee established under an interstate compact it would speed the day when we would attain a maximum of crude oil per acre at a minimum of cost. This would come about through practical elimination of the rule or law of capture and the substitution therefor of the law of correlative rights and result in co-operate development of pools, ending waste in drilling and waste of reservoir energy, making both conservation and stabilization inevitable."

Opposed Thomas Bill

Mr. Byles, questioned about his views on the Thomas-Disney bill, said he had declared before the Planning and Co-ordination Committee that he would oppose the bill except with a two-year limitation. He said he would have voted for the bill as it was offered had he been a member of Congress but that upon mature reflection since he has concluded that it would of a necessity lead to regulation of refining and marketing and that he now would oppose such legislation. He said he has opposed consistently the quotas in commerce clause advocated by Amos L. Beaty, chairman of the Planning and Co-ordination committee.

He believed the vote of the Institute last week represents a fair cross-section of the industry. As a champion of prevention of economic as well as physical waste, Mr. Byles declared for the states compact idea and if it should fail and fall down the worst that could result, he said, that price would have to bring offenders to their senses.

It was his view that there should be regulation of imports and fair play as long as proration is necessary. He said that producers of crude oil have had price benefits under the code while refiners have suffered and even greater chaos has resulted in marketing phases of the industry.

He offered the idea that the only general physical waste now existing in the production of oil is in the improper use of reservoir energy.

Mr. Mapes wondered if it was an unreasonable fear to be concerned about the dangers of a Federal authority reducing the crude oil allowable so low that the consumer would be threatened with exorbitant prices and the witness thought there would be no such changes.

Fears Federal Control

Mr. Wolverton's first question was directed at finding out why a state's compact would be less hazardous of ultimate control of the whole industry than a Federal statute to control allowables of crude oil production. Mr. Byles thought that a state's compact would be a more co-operative enterprise whereas Federal control might as well go the whole route and condemn and take over completely the whole industry and the $12,000,000,000 invested in it. He thought the value of the industry would be found to be much greater.

No man may prophesy what the future may hold, he said, but it is conceivable that presently another oil field of the proportions of East Texas may be discovered in another state. Then, he thought, with the shoe on the other foot, price conditions would quickly bring about changed opinions and viewpoints and attract more men to the thought that conservation is good for the Nation.

The guiding principle in the production of oil, Mr. Byles believed, should be to follow practices which would produce the greatest amount of oil for the smallest expenditure of money. He believed that the advances in engineering knowledge and the vicissitudes of the last five years have combined to teach the industry much that will be of benefit in the future.

After an extended colloquy, Mr. Wolverton said he still could not see sound reasons for Mr. Byles' optimistic hopes for betterments under a states compact.

State Compact

Mr. Byles said he would want to see a states compact start with California, Oklahoma, Kansas and Texas as participants and all other oil producing states brought quickly to the council plan. He believed one and not more federal representative should participate.

On the question of the propriety of bringing in imports while domestic production is held back Mr. Byles said that the imports now coming into the United States are heavy oils from the Caribbean fields suitable for the manufacture of asphalts. If domestic lighter oils were put into the manufacture of asphalts there would be too great production of gasoline. He said that the Independent Petroleum Association of America which led the fight for the curtailment of imports, is satisfied with the present importation of 108,000 bbls. daily.

Mr. Byles declared in favor of the co-operative development of oil pools and expressed the opinion that it is possible under modern scientific conditions to closely approximate the contents of a producing area. He believed that such practice is so clearly for the common good that it is bound to become a general practice. Proration is a limitation of the law of capture and co-operative development is a natural good, he said. He would make no declaration about the constitutionality of such procedure.

Asked if ultimately price will control the industry, he said such a course would entail so great a cost in resulting chaos he believed the industry can and should avoid such a condition.

Mr. Pettengill then suggested consideration of a plan of levying a federal graduated excise tax per well on the production of oil, stepping up the tax to a point that would make it unprofitable to overproduce the well.

A statement from J. R. Partin, president of the Independent Petroleum Association of Texas, urged that no measure of federal control be attempted save to forbid shipments of illegally produced oil in interstate commerce and that federal antitrust laws be given new force. Federal regulation of oil production, he said, would lead to complete regimentation of the industry.

CHEMICAL SOCIETY PROGRAM

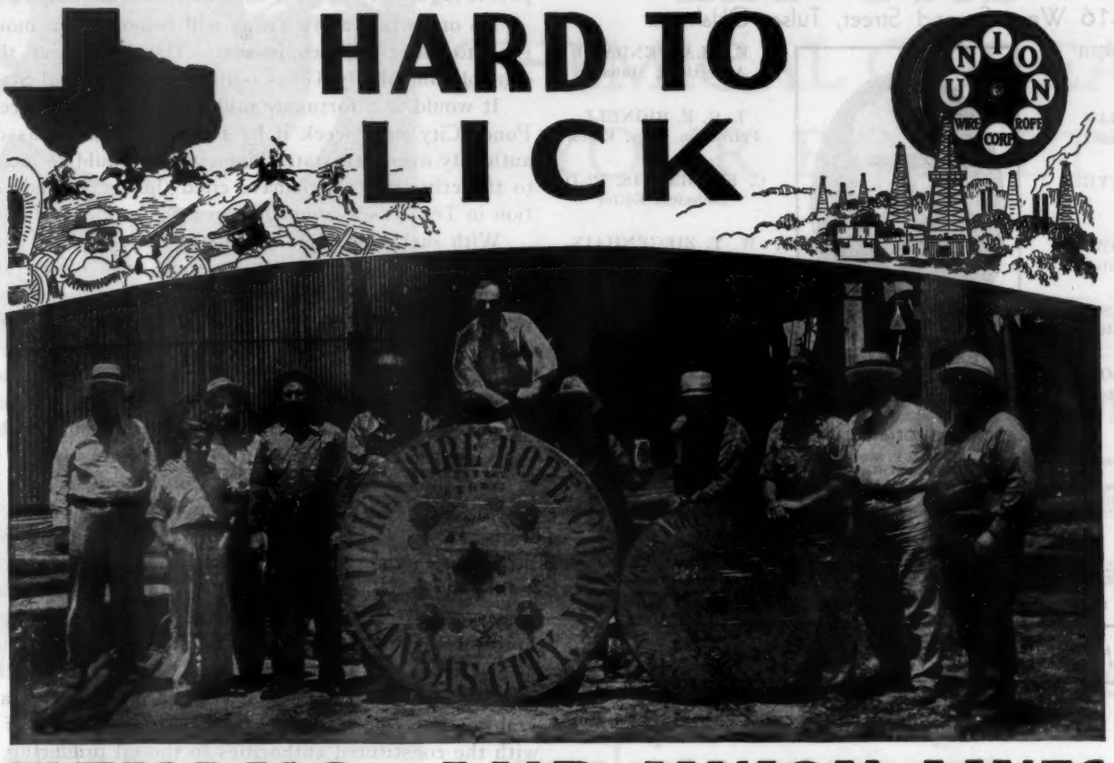
The program for the meeting of the Petroleum Group, Oklahoma Section, American Chemical Society, to be held at 2:30 p. m., December 8, in the high school at Okmulgee, follows:

"History of Analytical Chemistry in the Petroleum Industry," by Dr. Sidney Born, Tulsa University; "Method for Determining Sulphur in Petroleum Products," by N. A. Eisen, Mid-Continent Petroleum Corp.; "Some Experiences in the Use of the Timken Machine," by R. D. Best, Continental Oil Co.; "A Modified Timken Machine," by Guy Mitchell, Barnsdall Refining Co.; "Determination of Naphtha, Oil, Water and Asphalt Content of Press Filtered Contact Clay," by M. T. Burford and D. S. Campbell, Continental Oil Co.

J. F. ZITTLE DIES

John F. Zittle, pioneer in Pennsylvania's oil history, passed away November 18, at his home in Warren, Pa. Born in Buffalo in 1857, he was removed shortly after with his parents to Pleasantville, Pa., during the oil development there. At the age of 16 years he became affiliated with the National Transit Co. and continued with it for 53 years until his retirement eight years ago. He passed through several oil booms including that of the Cheery Creek Field and had made his home in Warren since 1882.

HARD TO LICK



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The above picture was taken at Christie Hickman Drilling Company's "T. J. DeSpain No. 2," Wheeler County. Left to right, those shown are: H. L. Graham, independent producer; Chas. Christie, Jr., son of C. B. Christie; C. B. Christie, of Christie-Hickman; C. W. Metz, driller; D. F. Thompson, tooldresser; J. C. Day, railroad commissioner; Jimmie Boyle, visitor and old-timer; Chas. Hickman, of Christie-Hickman; Fred Stragus, visitor; Hal Gruber, Union Wire Rope Corporation; C. B. Martin, Jarecki Mfg. Co.

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Not Needed

State regulation by the present Texas Railroad Commission faces an opportunity and a test. Fortified by a court decision upholding its authority to regulate movement of refined products within the state the last excuse has been eliminated.

The Federal Tender Board has shown what can be done in regulating interstate shipments. If the State commission will do as well in regulating intrastate shipments the problem will be solved.

If excess production in East Texas has been reduced from 125,000 barrels a day to about 18,000 barrels a day under the Federal Tender Board the State commission with its more intimate knowledge of the situation ought much more easily complete the job.

There is no compulsion upon it for further delay. The decision of the court indicated all that is necessary for putting the law into effect at once. The State's attorney general's department is beginning an aggressive drive against violators. The Railroad Commission is definitely "on the spot."

In the discussions at the American Petroleum Institute meeting and before the Cole congressional committee the failure of the railroad commission to enforce regulation in East Texas was repeatedly cast up as a damning exposure of the ineffectiveness of State regulation and as a clinching argument for Federal control.

The familiar excuses of lack of authority, legal obstacles and failure of co-operation have now been removed. A Federal board, new to the State, has been able to produce results within a few weeks. An equally efficient State board ought to be able to do as well.

Interstate shipments of refined products have been cut to one-fifth of the peak volume. Shipments of products from "hot" oil are now practically limited to intrastate transportation. These are the shipments that are placed directly under control of the State Railroad Commission. A few days should tell.

Whether it is due to inability of the intrastate market to absorb more "hot" oil products or to a possibility that the railroad commission may actually begin enforcement at once there is for the moment one of those periods of hesitation that have checked East Texas activities.

These periods have usually been caused by fears that some development might bring effective enforcement. If the railroad commission will start out boldly under its new authority the mere demonstration that it meant business would be effective.

Unless there is some such demonstration of effective regulation by the Railroad Commission Texas will either have to produce a competent regulatory body or confess that it cannot regulate itself.

No one who knows Texas will believe for a moment that it will need to make such confession. The alternative threat of Federal control will solidify Texas sentiment behind real State regulation.

It would be a fortunate prelude to the conference of governors at Ponca City next week if by that time Texas has demonstrated its authority over intrastate shipments. It would be a convincing answer to the criticisms which have cited the inefficiency of State regulation in Texas as a compelling reason for Federal control.

With such an exhibit of self-regulation by the States the governors would be encouraged to proceed with co-operative plans satisfactory to the oil producing States and to the petroleum industry.

It is even a question whether, with thorough understanding between the States, such a compact need be more than a covenant. Unless it is based on mutual interest and honest agreement it can hardly last. Federal interference to enforce such a compact would be as dangerous as Federal control to which it would probably lead.

An agreement entered into by the States would have to be lived up to rather than enforced. It would need to be a mutual compact rather than a compulsory contract.

If Texas will join Oklahoma and Kansas in working out the problem of crude regulation the other oil States will welcome this stabilizing step. The purpose of a compact, as concisely summarized by Mr. Sinclair before the Cole committee at Los Angeles, is "to make uniform the laws and regulations pertaining to the production of oil in the oil producing states and to co-ordinate state control with interstate commerce with the assistance and co-operation of the Federal government. * * * By voluntary co-operation of the oil industry with the constituted authorities in the oil producing states and efficient operation of Sections 9 and 10 of the National Industrial Recovery Act, the objective sought to be attained by the interstate pact can be accomplished under the existing laws."

It must be remembered also, as Mr. Sinclair pointed out, that it will take some time to put an interstate compact through all its necessary stages. The industry cannot postpone amelioration of the present condition until that slow process is completed.

An effective demonstration that the States can and will hold production to demand would bring about an immediate improvement. Restriction of interstate shipments should be equally beneficial. With the market for "hot" oil products closed we should hear less about refiners being unable to operate on dollar crude. They will not then have to compete with products from cut price oil.

If the industry and the States wish to escape Federal control, and there is no doubt they emphatically do, Texas should pave the way for a State agreement at the governor's conference, an agreement which will clarify State regulation and invite the co-operation of the industry.

The draft of the reported bill for Federal control prepared last spring, at Washington, revealed before the Cole congressional committee, should be a warning to the industry as to what extreme lengths government control might be carried.

It was reports about this bill which induced the industry to accept the Thomas-Disney measure as the lesser of two dangers. The respite afforded by the failure of that measure to get through the last Congress fortunately gave the industry more time to consider all the implications in the situation and led to the determination to oppose any form of Federal control as certain to lead to ultimate disaster.

Both the States and the industry are vitally interested in formulating a definite program before Congress meets. It is true the members of the sub-committee which has been investigating the condition of the industry have made a favorable impression but no one can foretell what Congress may do to a committee report.

The most effective showing the industry and the States can make against Federal control is to show that it is not needed

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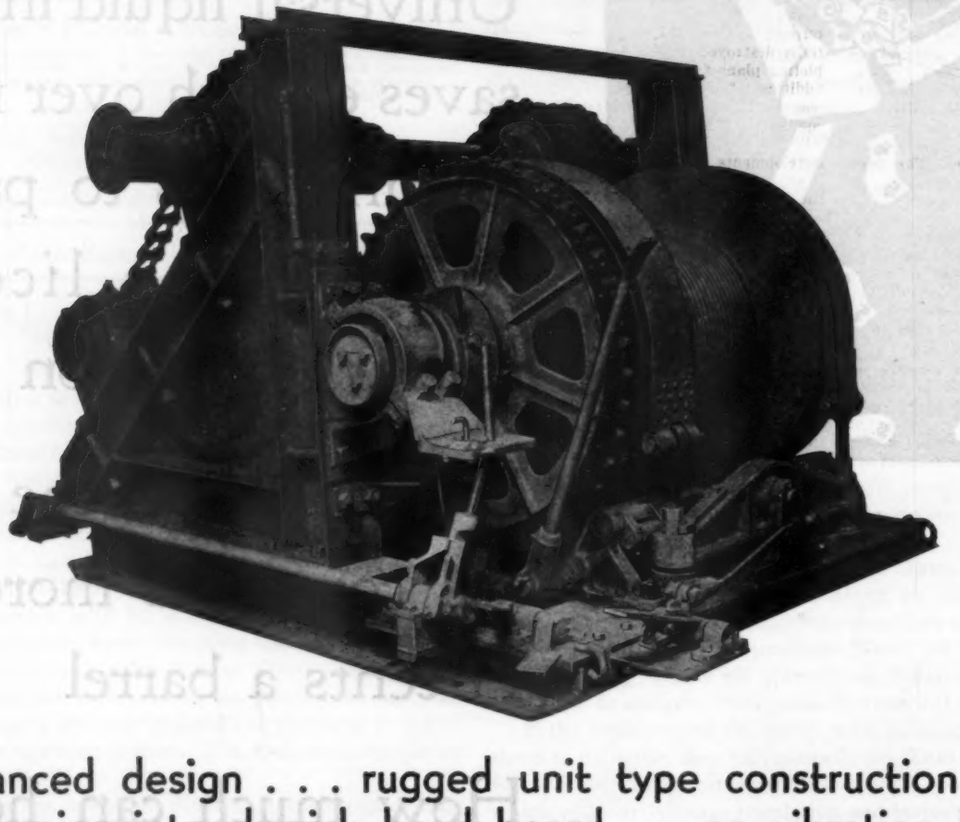

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Bulletin No. 47 free on request

THE NATIONAL SUPPLY COMPANY

NEWS FROM FOREIGN LANDS

U. S. S. R.

According to reports from the U.S.S.R., manufacturers of oil equipment and supplies in the United States will be among the American industries which will benefit if the new efforts now being made to effect a final settlement of the Soviet debt problem are successful. Recent reports have indicated that a new agreement covering the payment of governmental and private debts was certain to be approved by the governments of the United States and the U.S.S.R., thus making possible the extension of a large credit through the Export-Import Bank sponsored by the United States Government to be expended in the purchase of American goods.

In this connection several engineers connected with the operating oil trusts of the U.S.S.R. are now in the United States and should trade negotiations be completed they would be in a position to make recommendations as to the purchase of equipment for producing, transportation and refining operations. The engineers in this country include: K. P. Lavrovsky, chemical engineer and N. A. Krysin, mining engineer, representing Vostokneft (Eastern Oil Trust); R. S. Prozoumentik, A. G. Marcarian and J. A. Droushkin, directors of three refineries in Baku district; S. A. Kholodoff and P. F. Reshetniak, refinery engineers representing Glavneft and connected with Moscow Research Institute.

The government plans to increase all phases of its oil operations in Russia during 1935. Over the past three years the oil administration has depended largely on equipment and materials manufactured in local plants and those located in some other of the European countries. It is felt according to government advices, that their operating program can be expedited if the output of these plants is supplemented by substantial purchases in the United States. Their engineers are said to be especially interested in new drilling and pumping methods involving the use of special equipment. They are also investigating new refining processes including equipment for the manufacture of lubricating oils.

At a farewell dinner tendered him Friday evening, November 23, at the Waldorf-Astoria, New York City, Peter A. Bogdanov, chairman of the board of the Amtorg Trading Corp., predicted an expansion in trading between the United States and the U.S.S.R. At the dinner which was given by the American-Russian Chamber of Commerce and attended by 300 business leaders in the United States, Mr. Bogdanov emphasized the necessity of arranging suitable credit terms for the purchase of American equipment.

"The policy of the Soviet Union is the maintenance of peace and the development of trade relations with all countries," Mr. Bogdanov said explaining that it was not the intention of the country to bring about economic nationalism as is being done in many countries.

One of testimonials at the banquet was from Gerard Swope, president of the General Electric Co., who explained the satisfactory relations his company had with Mr. Bogdanov who in the past five years had directed the purchase of $25,000,000 worth of equipment for the Soviet Union. Mr. Bogdanov will leave the United States December 1 to take over other duties with the government in Russia.

Soviet specialists have constructed a series of installations for the recovery of used lubricating oil. Of special interest is "BA" device constructed by engineers, Vlasenko and Akchurin. The latter is highly portable, can be transported by truck and utilized at the consuming center. The productivity is 75 to 150 kilograms of lubricating oil in a batch. For operating "BA" neither electricity nor steam are necessary. It can be worked even under field conditions, only the presence of water being necessary. According to the calculations of central petroleum organization, about 225,000 additional tons of lubricating oil may be expected in 1935 by means of recovery of used oils.

ARGENTINA

The Compania Nacional de Petroleos, Standard Oil Co. (New Jersey), whose refinery at Campana, Argentina, was partially destroyed by fire August 28 is completing plans for rebuilding the plant. In addition to rebuilding the equipment that was destroyed and repairing the damaged eqquipment, the arrangement of the plant will be changed to conform to the latest developments in refinery operations. It is expected that the work will start about the first of the year.

The fire which was the most disastrous of the year in the refining industry destroyed the units for crude distillation and vacuum distillation. The cracking equipment, gasoline recovery unit, and boiler and power house were damaged. Considerable tankage was destroyed. The refinery previous to the fire had a rated crude oil capacity of approximately 15,000 bbls. daily. It furnishes a part of the products distributed by the West India Oil Co. in Argentine and other points on the east coast of South America.

GREAT BRITAIN

A new report of the Board of Trade Journal in Great Britain gives an accurate check on gasoline consumption in the United Kingdom. This information previously has not been available. This report shows that gasoline consumption in the United Kingdom has been increasing steadily since 1929 although the rate of gain until this year had been decreasing. The increases by years were as follows: 1930, 8.7 per cent; 1931, 6.9 per cent; 1932, 4.8 per cent, and 1933, 4 per cent. The gain so far this year has been about 6 per cent.

The following table gives the consumption by quarters for 1934 and 1933 (data in imperial gallons):

	1934	1933
First quarter	253,000,000	229,400,000
Second quarter	293,000,000	278,900,000
Third quarter	317,400,000	322,700,000
Fourth quarter	255,700,000	.....

MANCHUKUO

A new plan for distributing petroleum products in Manchukuo is being considered by the newly created Petroleum Monopoly Bureau which will permit private interests now marketing in that country to furnish a large part of the products distributed after the monopoly act becomes effective. The plan as yet has not received official approval.

Under the suggested plan the foreign companies will participate through the wholesale agencies which are to be established by the monopoly. There will be 10 wholesale agencies covering sections of the country and each agency will have 100 shares as a basis for furnishing supplies. A suggested allocation would give the Standard-Vacuum Oil Co. 35 shares, Shell interests 25 shares, Texas Co. 10 shares, Soviet companies 10 shares and Japanese companies 10 shares. It is also understood that under this plan all companies participating would be required to secure part of their supplies from a new refinery which is being built at Darien. This plant is controlled by Japanese capital.

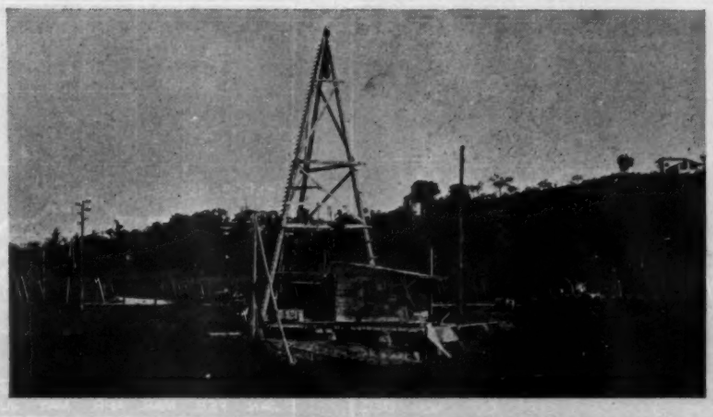
FRANCE

Imports of crude oil and refinery products into France the first nine months of this year totaled 4,596,500 tons, a small increase when compared with the 4,320,200-ton total for the same period in 1933. The big gain in imports has been in crude oil imported from practically all the principal producing countries with decreases in imports of finished products. The following table gives the imports for the first nine months of 1934 and 1933 (data in tons):

	1934	1933
Crude oil	3,138,200	1,908,000
Gasoline	828,370	1,357,100
Lubricating oil	123,970	145,700
Fuel oil	216,800	473,600
Gas oil	188,800	273,600
Kerosene	31,820	68,890
Road oil, etc.	42,700	72,400

Imports in September established a new record with a total of 346,180 tons, or approximately 80,000 bbls. daily. Due to a steady expansion in French refining facilities, plants located in that country are now furnishing more than 50 per cent of the petroleum products required for domestic consumption. Two refineries are under construction at this time and at least two plants now operating are being enlarged.

It is certain that another year will see a substantial increase in the production of lubricating oils at French refineries. At present the bulk of the lubricating oils are still being imported. One large lubricating oil plant at a French refinery was completed during the past few months.



A test well in the Salsimaggiore Field of Italy

VENEZUELA

Crude oil production in Venezuela during October showed a small daily average decrease when compared with September but was 14 per cent greater than October, 1933. The daily average in October was 394,850 bbls., which compares with an average of 402,500 in September and 346,071 bbls. in October, 1933. The following table gives the total monthly production (in barrels) by companies and fields:

	October	
Companies	1934	1933
Lago Petroleum Corp.	4,418,350	3,312,140
Venezuelan Oil Concessions, Ltd.	3,045,250	2,800,500
Creole Petroleum Corp.	1,691,700	1,308,300
Caribbean Petrol'm Co.	1,443,100	1,185,600
Venezuela Gulf Oil Co.	1,139,000	1,371,900
Colon Oil Corp.	421,900	637,700
British Controlled Oilfields, Ltd.	80,500	111,900
Total	12,240,300	10,778,040
Fields		
Lagunillas	6,785,550	5,609,400
La Rosa-Ambrosio	1,855,960	1,920,600
Mene Grande	1,443,140	1,135,800
Quirequire	1,188,300	634,800
Tarra	421,940	637,700
Cumarebo	306,600	411,850
Concepcion	138,600	194,300
El Mene	80,600	111,950
La Paz	19,700	21,900
Total	12,240,300	10,728,200

Among the major producers all companies had increases in October over October, 1933, with the exception of the Gulf, Colon and British Controlled Oil fields. Recently the production of the Lago corporation has shown a substantial increase. The average of 142,500 bbls. daily in October compares with 138,300 bbls. in September and 106,800 bbls. in October, 1933.

The Creole Petroleum Corp., the other Standard of New Jersey unit in Venezuela, also has shown a large increase in production over the past year. Its production average of 54,570 bbls. daily in October compares with 42,200 bbls. in October, 1933. The Caribbean Petroleum Co. has shown the largest increase among the Shell interests.

Among the fields the pools given the general classification of Lagunillas accounted for over 1,000,000 bbls. of the October increase over October, 1933. The production of the Quirequire Field in Eastern Venezuela has shown an almost 100 per cent increase over the past year. The Mene Grande area has had a large increase in production over last year. Production in the Tarra pools has decreased more than 25 per cent when October production is compared with October, 1933.

The following table shows the trend in Venezuelan crude oil production so far this year (in barrels) compared with the same period in 1933 (data in barrels):

	1934	1933
January	10,853,700	9,698,900
February	9,769,200	8,823,700
March	10,900,000	9,944,500
April	11,027,600	9,058,300
May	11,542,400	9,133,000
June	11,202,200	9,262,300
July	11,976,300	10,052,400
August	12,232,000	10,309,200
September	12,075,000	10,181,500
October	12,240,300	10,728,200

IRELAND

The Cork Harbour Oil Wharves, Ltd., subsidiary of the Oil Wharves, Ltd., is now erecting a small refinery on Haulbowline Island. The distillation unit of Foster Wheeler design has a capacity of 600 bbls. daily. A wharf is to be built on the mainland opposite Haulbowline.

Faintly Improved Gasoline Market Discernible in Group 3, But Uncertainties Still Overhang It

By T. F. SMILEY

A faintly improved gasoline market was discernible this week in the Oklahoma (Group 3) area, but uncertainties still clouding the future forbade more than a moderate degree of optimism. Natural gasoline, whose activity was a subject of comment last week, exhibited freshened vigor.

Among conditions mentioned as contributing to the slightly better tone displayed by the motor fuels were reduced distress stocks in East Texas, somewhat firmer retail prices and the prospect of an early end of intrastate movement of illegal material out of East Texas.

For Coastwise Shipment

Between 150 and 200 cars of gasoline, bearing no stain of illegitimacy but seeking quick outlet, were reported to have been bought up in East Texas by the Humble Oil & Refining Co. and other interests in the last week and moved to Houston, presumably for coastwise shipment. Various prices are said to have been paid, all under quotations now prevailing.

Efforts to adjust service station prices in districts where underselling has been rampant had the effect of quickening jobber and broker demand in those areas and of imparting a little better feeling everywhere. One of the most ennervating influences for months past has been senseless price cutting designed apparently to kill off competition or to gain gallonage, this larger gallonage often representing actual loss.

Following testimony Monday of this week before the Railroad Commission of Texas an order was expected to be issued by that body imposing upon intrastate movement of petroleum products the same restrictions now applied by the Federal Tender Board to interstate shipments out of East Texas. This should halt the stream of trucks which have been hurrying stocks of illicit gasoline from East Texas to consuming points inside the State. As the owners of this material must get rid of it before an intrastate tender order goes into effect or else have it as a white elephant on their hands, they have not been in a position to quibble about price, and much of it is said to have been dumped at 2¼ cents. With this source of cheap motor fuel removed the market in Texas is expected to show increasing strength, and the healthier condition within the State should be reflected in a better tone elsewhere.

Indicative of the sharply changed conditions in East Texas since the Federal Tender Board has permitted no interstate shipments of oil products out of that district unless lawful origin of the crude could be shown is the big drop in motor fuel shipments. In the week ending November 20 approximately 250 cars of gasoline were moved out of East Texas in both interstate and intrastate shipment as compared with about 1,250 cars in the same length of time in mid-October

Notwithstanding the more encouraging aspect of some phases of the market, observers were inclined to believe no substantial rise in gasoline prices could reasonably be expected at once. It was pointed out that there is still an immense quantity of gasoline picked up at bargain prices in storage at various distributing points and that this will have to be absorbed before the full benefit of any improved conditions can be felt.

Market Still a Gamble

Uncertainties still lying in the road, including the fate of the oil code in a prospective court decision as to its constitutionality, moved one sales executive to remark this week, "I wouldn't buy gasoline ahead in this market. It may be the best buy in the world, but it's a gamble."

Not all the depressing conditions which for weeks have tended to neutralize the effects of the Tender Board's work have been eradicated yet. A subject widely discussed is why the spot gasoline market has not shown more strength in view of the virtual drying up of the stream of gasoline, hot and otherwise, which had been flowing out of East Texas.

Various reasons are offered for the prolongation of the weak spot market. For one thing jobbers, particularly those who have suffered losses through failure to guess the future, feel no disposition to enter the market actively till its major uncertainties have lifted.

Many retailers, instead of buying from jobbers as formerly, have been buying in tank-wagon lots from dealers in their own districts.

Putting One Over on Competitor

One of the most interesting revelations in connection with recent weakness in the spot market has been the practice by some integrated companies of quietly taking advantage of the bargain prices offered by competing integrated companies. Thus a company controlling outlets in a certain district would not ship its own

(Continued on Page 32)

Refined Oil Market Barometer

Notwithstanding improved conditions in East Texas, the continuance in some areas of practices designed to increase gallonage at the expense of profit has prolonged unsatisfactory market conditions. A basis for hope at the present moment seems to lie in recommendations to be made by oil leaders to the Petroleum Administrative Board with a view of remedying disorganized markets. Uncertainties beclouding the future tending to discourage jobber activity.

Mid-Continent—Gasoline slightly steadier. Natural strong. Burner oils waiting for colder weather.

East Coast—Expected improvement in gasoline market fails to materialize. Kerosene up.

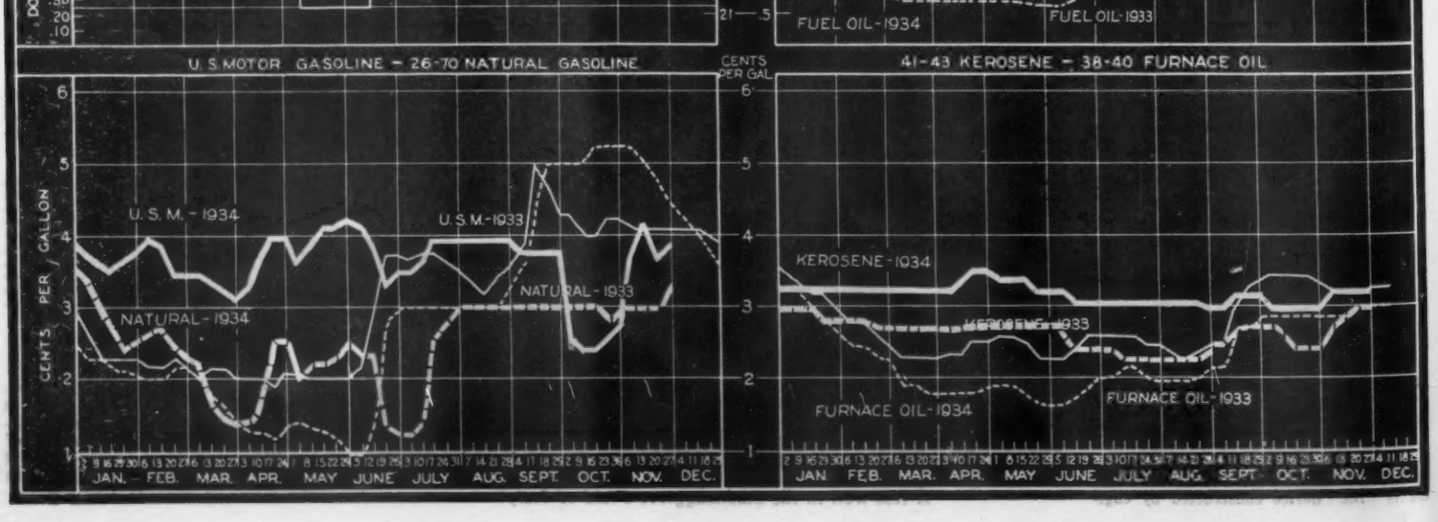
Gulf Coast—Gasoline continues weak, with no demand. Kerosene weak for intrastate movement, but steady for outside. Fuels fairly steady. Fair demand for lubricants.

Pennsylvania—Market generally dull, except for more active movement of cylinder stocks.

California—Market firmer after showing weakness. Cooler weather improving demand for natural gasoline, with prices fractionally higher.

Chicago—Increased tank car offers unsettle gasoline, notwithstanding retail improvement. Heating oils firm.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Continue Efforts, Heretofore Unsuccessful, to End the Eastern Gasoline Price War Conditions

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Nov. 26.—Developments which were expected to bring about an improved situation in the gasoline market again failed to materialize over the past week and today it appeared that the month would be brought to a close with prices as unsatisfactory as they were at the start.

There are daily predictions in the trade that the next 24 hours will see some action taken by one or more major companies which will end the price-war conditions which prevail at many points centering in New Jersey. It is known that marketing methods in this territory have been thoroughly aired at meetings which have been held here over the past month and a general agreement has been obtained that certain practices should be dropped or amended. There are other practices concerning which the companies concerned are as wide apart as when the trouble started last month. Compromises have been suggested but had not at this writing been finally approved.

Kerosene Higher

Among the other products the only price change of the week was a one-fourth cent increase in kerosene tank car quotations so that the prevailing market on quality material in the New York harbor area is now 5¼ to 5½ cents. Sinclair Refining Co. and several other companies the latter part of last week advanced their price one-fourth cent along the Atlantic Seaboard with a price of 5½ cents in New York. The 5-cent kerosene meeting all the generally accepted specifications has disappeared and the market in this territory is generally considered strong.

The larger refiners in this territory do not have excess kerosene and buyers who obtain part or all of their supplies from inland Pennsylvania and Gulf Coast refiners report those markets stronger than they were a month ago. Distributors state that consumption is running ahead of last year. The demand is particularly heavy in New England where thousands of range and oil heaters are used. These heaters either use kerosene or a range oil which is similar in specifications, as fuel. Other uses of kerosene are at least holding their own with last year.

The better market situation for kerosene has served to bring a better tone to the furnace oil market especially in the No. 1 grade. The exceptionally high temperatures for this season of the year throughout the East has served to slow down the actual consumption of furnace oils and in few points distributors have sought to stimulate business by offering concessions of from one-fourth to one-half cent in tank wagon deliveries. It is believed that this situation will end with the advent of cold weather and with firm tank car prices, this market will improve during the winter months.

Gasoline Trend Uncertain

In regard to gasoline prices one sales manager says that quotations could be increased at points where they are now subnormal and probably all the major and small distributors would meet the advances because all of them have tired of the heavy losses of the past 20 to 40 days. This sales manager points out, however, that the basic causes of the low prices would remain and this in time would mean a duplication of the price situation which has brought service station prices down to 5 to 10 cents a gallon exclusive of taxes at many points. With this past history in mind certain companies apparently are determined to continue the present price levels until such time as a more permanent remedy is found.

Another sales executive feels that the conferences and informal discussions which have been held over the past month will have justified themselves if they do nothing more than cause certain major executives to fully realize inconsistencies in their own marketing practices.

The same situation applies to some of the smaller companies.

It apparently has come as a surprise to certain executives not directly connected with their marketing operations when they learned that their own gasoline sold on a wholesale basis was partially or wholly responsible for the declines in prices which directly affected the price levels of products sold through their own stations. There is nothing new in this sales policy of many companies and it is possible that its importance has been exaggerated in the present situation. It is a phase of struggle for gallonage in which one sales department of a company is often trying to increase shipments by offering bargains in spot or contract material to jobbers while another is endeavoring to secure profits through company owned stations and controlled dealer accounts. Cases are cited in which the gasoline in the hands of a jobber which started a price war at a particular point came from the same refinery owned by the company which is one of the largest tank wagon and service station operators in that section. The explanation of the wholesale department usually is that it was meeting competition coming either from large companies or smaller concerns.

It is agreed that this dual sales policy of many companies often fails to function satisfactorily and has contributed to unsound price conditions. At the same time it is not something that can be remedied overnight. Most companies are gradually expanding their company owned or controlled marketing operations but they expect to continue indefinitely to sell part of their gasoline output on a tank car basis to jobbers and other wholesale buyers.

Another Viewpoint

It is hoped that the expose of the past few weeks will serve to minimize the evils of this marketing situation by causing all concerned to realize what happens when one hand attempts to maintain stable markets while the other tears down. In this connection one veteran marketer contends there is nothing incongruous in one company marketing its gasoline in several different ways. There are points in this company's territory where it has company owned and operated drive-in stations, leased stations, dealers outlets and jobbers—all selling gasoline coming from the same refinery. He maintains that under ordinary conditions the company has no difficulty in maintaining tank car, tank wagon and service station quotations including margins and differentials based on type of delivery that are fair to everyone concerned. In brief, he contends that the trouble lies in the fluctuations in refinery prices which in turn reflect unsound conditions in the crude oil end, and not in the machinery of distribution regardless of how complicated.

"Give us a stable market at the refinery and we will distribute it without any price difficulties,' he explains. "All this duplication of effort in distributing gasoline with the various types of outlets are a reflection of the efforts of individual companies to get rid of excess gasoline in the industry. This situation will correct itself rapidly just as soon as the overproduction is ended."

Shift in Gallonage

Those in daily touch with tank wagon and service station markets predict that the low prices at several points in New Jersey will spread unless something is done to bring back normal quotations by the end of the month. Regular grade gasoline is selling at 9.9 cents in Newark and adjoining points. This gasoline is in direct competition with the market in metropolitan New York where the same grade gasoline is generally quoted at 17 cents. The New Jersey stations are taking more and more business from New York and points in New Jersey and Pennsylvania where normal schedules are effective. The commercial business in Greater New York is suffering and this constitutes a large part of the city business. Buses and trucks and lighter commercial vehicles which normally buy all their gasoline in New York have changed their operations so that tanks are filled in New Jersey. It is said that thousands of family cars are securing their gasoline at Jersey stations over week ends despite the fact that owners pay tolls to cross the river. One observer points out that New Jersey car owners have been so accustomed to the low prices that they now consider them normal and are certain to complain when posted schedules return to the higher levels.

Refinery Prices

For middle octane gasoline the usual quoted price in New York Harbor area for tank car shipment is 5½ cents and one-fourth cent lower for small barge shipments. This open market quotation including 5¾ cents for higher octane material appears steady. Movement on contracts in this territory especially in New Jersey is running ahead of last year.

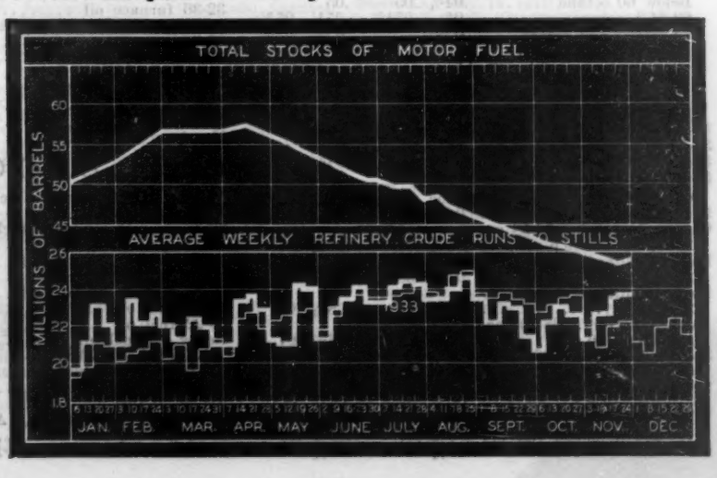
The export gasoline market at the Gulf is unchanged so far as prices are concerned. There were several inquiries from Europe during the month but so far as known participation of refiners in this

(Continued on Page 45)

American Petroleum Institute Weekly Refinery Statistics

Week Ending November 24, 1934

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	482,000	11,538,000	14,492,000
Appalachian	93.3	100,000	1,603,000	1,671,000
Indiana, Illinois, Kentucky	94.6	350,000	6,206,000	5,527,000
Oklahoma, Kansas, Missouri	83.7	255,000	3,493,000	3,932,000
Inland Texas	47.6	100,000	1,076,000	1,679,000
Texas Gulf	97.5	481,000	4,216,000	11,060,000
Louisiana Gulf	96.4	109,000	1,120,000	3,501,000
North Louisiana and Arkansas	83.7	47,000	175,000	574,000
Rocky Mountain	66.7	46,000	460,000	617,000
California	96.9	409,000	10,319,000	70,119,000
Total United States	89.7	2,379,000	40,206,000	113,262,000



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	Nov. 27		Nov. 20	
U. S. Motor grades:				
Below 63 octane	.03⅞	.04	.03¾	.04
63-70 octane	.04⅞	.04⅞	.04⅞	.04⅞
60-62 400 grades:				
Below 63 octane	.03⅞	.04	.03¾	.04
63-70 octane	.04⅝	.04⅞	.04⅝	.04⅞
64-66 375	.03⅞	.04	.03⅞	.04
68-70 360	.04	.04⅜	.04	.04⅜
NORTH TEXAS—				
U. S. Motor grades:				
Below 63 octane	.03¾	.04	.03¾	.04
63-70 octane	.04⅝	.04⅞	.04⅝	.04⅞
60-62 400	.03¾	.04	.03¾	.04
64-66 375	.03⅞	.04	.03⅞	.04
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04¼	.04½	.04¼	.04½
63-70 octane	.05	.05¼	.05	.05¼
60-62 400	.04¼	.04½	.04¼	.04½
68-70 360	.05	.05¼	.05	.05¼
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04¼	.04½	.04¼	.04½
63-70 octane	.05	.05¼	.05	.05¼
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 63 octane	.03⅞	.04	.04	.04¼
63-70 octane	.04⅝	.05	.04¾	.05
60-62 400	.03⅞	.04	.04	.04¼
64-66 375	.04	.04½	.04½	.04⅝
68-70 360	.04¼	.04½	.04½	.04½
Aviation fighting grade	.04⅞	.05	.04⅞	.05
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.05	.05¼	.05	.05¼
60-64.9 octane	.06	.06¼	.06	.06¼
65-70 octane	.06⅜	.07	.06⅜	.07
68-70 350	.06⅛	.06¼	.06⅛	.06¼
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.07	.08	.07	.08
58-60 400	.08	.09	.08	.09
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York	.05¼		.05¼	
Baltimore	.05¼		.05¼	
U. S. Motor, 60-64 octane:				
*New York (Bayonne)	.05¼		.05¼	
Philadelphia	.05½	.05¾	.05½	.05¾
Boston	.05¼		.05¼	
Baltimore	.05½		.05½	
Charleston, S. C.	.05½		.05½	
U. S. Motor, 65 and above:				
*New York	.05¾		.05¾	
Philadelphia	.05¾		.05¾	
Boston	.05¾	.06	.05¾	.06
Baltimore	.05¾		.05¾	
Charleston, S. C.	.05¾		.05¾	

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.04¾	.05	.05	
60-64.9 octane	.05	.05¼	.05½	.05¾
65 octane and higher	.05¼		.05½	.05⅝

Naphthas

	Nov. 27		Nov. 20	
PENNSYLVANIA (inland refineries)—				
50-52 (blending)	.04¾		.04¾	
52-54 450 (blending)	.04¾		.04¾	
54-56 450 (blending)	.04¾		.04¾	
50-52 450 (blending)	.04¾		.04¾	
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.04	.04¼	.04	.04¼
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 180 i.b.p.-250 e.p.	.07¾	.08	.07¾	.08
Lacquer diluent, 140 i.b.p.-200 e.p.	.08¾	.09	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06¾	.07	.06¾	.07
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 290-300 i.b.p.-415 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06	.05¾	.06

Natural Gasolines

OKLAHOMA (Group 3)—	Nov. 27		Nov. 20	
Grade 26-70	.03¼		.03	.03½
Grade 18-55	.03⅞	.04	.03⅝	.03¾
Low vapor pressure grades:				
14 lb. v.p. (max.)	.04¼	.04⅜	.04	.04⅛
11 lb. v.p. (max.)	.04½	.04⅝	.04¼	.04½
NORTH TEXAS—				
Grade 26-70	.03	.03¼	.02⅝	.02¾
Grade 18-55	.03⅝	.03⅞	.03⅜	.03½
Low vapor pressure grades:				
14 lb. v.p. (max.)	.04	.04¼	.03⅝	.03¾
11 lb. v.p. (max.)	.04¼	.04½	.04	.04¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
Grade 26-70	.03⅝		.03⅝	
CALIFORNIA—				
75-85 375	.06½	.06¾	.06½	.06¾

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Nov. 27		Nov. 20	
41-43	.03⅛	.03½	.03¼	.03½
NORTH TEXAS—				
42-44	.03⅜	.03½	.03½	.03⅝
40-41	.03	.03⅛	.03	.03⅛
41-43	.03¼	.03⅜	.03¼	.03⅜
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
41-43	.03⅜		.03⅜	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.03⅜	.03½	.03⅜	.03½
PENNSYLVANIA (inland refineries)—				
45	.04½	.04⅝	.04½	.04⅝
46	.04⅝	.04¾	.04⅝	.04¾
47	.04¾	.04⅞	.04¾	.04⅞
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03¼	.03⅜	.03¼	.03½
42-44	.03⅜	.03½	.03½	.03⅝
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04¾	.05¼	.04¾	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43	.05½		.05	.05¼
GULF COAST (domestic)—				
41-43	.04½	.04⅝	.04½	.04⅝

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	Nov. 27	Nov. 20
Still run	5.75	5.75
Direct from still	6.75	6.75
Egg, nut, pea	8.25	8.25
Lump	8.25	8.25

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	Nov. 27		Nov. 20	
32-36 straw	.02⅞	.03⅛	.02⅞	.03⅛
36-38 straw	.03	.03⅛	.03	.03⅛
38-40 straw	.03	.03⅛	.03	.03⅛
38-40 prime white	.03⅛	.03⅜	.03⅛	.03⅜
NORTH TEXAS—				
38-40 straw	.03	.03⅛	.03	.03⅛
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
36-40 furnace oil	.03	.03⅛	.03	.03⅛
ARKANSAS (Ark., N. La. & Miss. del.)—				
32-36 furnace oil	.03	.03⅛	.03	.03⅛
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.03	.03⅛	.03	.03⅛
38-40 straw	.03	.03⅛	.03	.03⅛
38-40 prime white	.03⅛	.03¼	.03⅛	.03¼
NEW YORK (Bayonne, N. J.)—				
No. 1	.05	.05¼	.05	.05¼
No. 2	.04½		.04½	
No. 4	.04½		.04½	

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gallon, Diesel and fuel oils per barrel)

OKLAHOMA (Group 3)—	Nov. 27		Nov. 20	
32-36 gas oil cracking stock	.01⅞	.02	.01⅞	.02
U.G.I. gas oil	.02	.02½	.02	.02½
32-36, zero to 15 gas oil	.02¾	.02¾	.02¾	.02¾
28-30, No. 3 burner oil	.97½	1.02½	.97½	1.02½
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.77½	.80	.77½	.80
20-22 fuel oil	.72½	.75	.72½	.75
Below 16 fuel oil	.60	.62½	.60	.62½
NORTH TEXAS—				
32-36 gas oil, industrial	.01⅞	.02⅛	.01⅞	.02⅛
22-26 fuel oil	.67½	.70	.67½	.70
Below 20 fuel oil	.57½	.62½	.57½	.62½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02¾	.02½	.02¾
14-16 fuel oil	.70	.75	.70	.75
ARKANSAS (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02¾	.02½	.02¾
32-36 gas oil	.02½	.02⅝	.02½	.02⅝
14-16 fuel oil	.70	.75	.70	.75
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
28-30 zero to 10, fuel oil	.95	1.00	.95	1.00
26-28 zero to 10, fuel oil	.85	.90	.85	.90
22-26 zero to 10, fuel oil	.75	.80	.75	.80
18-22 zero to 10, fuel oil	.65	.70	.65	.70
Below 18 fuel oil	.55	.60	.55	.60

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.03½		.03½	
CALIFORNIA—				
Los Angeles:				
30-34 gas oil per bbl.	1.10	1.26	1.10	1.26
27 plus Diesel	1.05	1.15	1.10	1.15
27 plus Diesel (bunkers)	1.13	1.20	1.13	1.20
12-16 (bunkers at tidewater)	.82½	.85	.82	.85
10-16 (cargo lots)	.66	.75	.66	.75
12-17 (tank cars)	.55	.80	.55	.80
San Joaquin Valley:				
10-18 (tank cars)	.50	.70	.50	.70
San Francisco:				
27 plus Diesel per bbl.	1.15	1.25	1.15	1.25
27 plus Diesel (bunkers)	1.19		1.19	
10-16 (bunkers)	.89		.89	
GULF COAST—				
28-30 gas oil	.03½	.03⅝	.03½	.03⅝
28-30 Diesel (bunkers)	1.70		1.70	
Bunker C (bulk cargoes)	.85	.90	.85	.90
Bunker C (bunkers)	.95	1.00	.95	1.00
NEW YORK (Bayonne, N. J.)—				
27 plus, gas oil	.04¼	.04½	.04¼	.04½
28-30, Diesel (lighterage 6½ cents per bbl.)	1.89		1.89	
28-30 Diesel (tank cars)	.04½	.04¾	.04½	.04¾
*Bunker C (to ocean-going ships in N. Y. harbor)	1.15		1.15	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)—	Nov. 27		Nov. 20	
Zero to 10 Cold Test:				
150-3	.10		.10	
180-3	.11¼		.11¼	
180-4	.10¾		.10¾	
200-3	.11¾		.11¾	
200-4	.11¼		.11¼	
240-3	.13¾		.13¾	
240-4	.13¼		.13¼	
280-3	.14¾		.14¾	
280-4	.14		.14	
300-3½	.15¼		.15¼	
400-4	.17¼		.17¼	
100-2 paraffin oil	.05¾		.05¾	
15-20 Cold Test:				
200-3	.10¾		.10¾	
200-4	.10¼		.10¼	
240-3	.12¾		.12¾	
240-4	.12¼		.12¼	
280-3	.13¾		.13¾	
280-4	.13		.13	
GULF COAST—				
Pale Oils:				
200-3	.07¼	.07½	.07¼	.07½
300-3	.07½	.08	.07½	.08
500-3½	.08½	.09	.08½	.09
750-3½	.09	.09¼	.09	.09¼
1,200-3½	.09½	.09¾	.09½	.09¾
2,000-4	.09¾	.10	.09¾	.10
Red Oils:				
200-5-6	.07	.07¼	.07	.07¼
300-5-6	.07¼	.07½	.07¼	.07½
500-5-6	.08	.08½	.08	.08½
750	.08½	.09	.08½	.09
1,200-5-6	.09¼	.09½	.09¼	.09½
CALIFORNIA—				
Pale Oils:				
100-2½-3	.12½	.14½	.12½	.14½
200-2½-3	.12½	.14½	.12½	.14½
300-3-3½	.12½	.14½	.12½	.14½
350-3-4	.12½	.14½	.12½	.14½
400-3-4	.12½	.14½	.12½	.14½
450-3-4	.12½	.14½	.12½	.14½
550-3-4	.12½	.14½	.12½	.14½
600-3-4	.12½	.14½	.12½	.14½
Red Oils:				
200-4-5	.12½	.14½	.12½	.14½
300-5-6	.12½	.14½	.12½	.14½
350-5-6	.12½	.14½	.12½	.14½

400-5-6	.12½	.14½	.12½	.14½
450-5-6	.12½	.14½	.12½	.14½
500-5-6	.12½	.14½	.12½	.14½
600-5-6½	.12½	.14½	.12½	.14½
700-6½ plus	.12½	.14½	.12½	.14½
750-6½ plus	.12½	.14½	.12½	.14½
900-6½ plus	.12½	.14½	.12½	.14½
PENNSYLVANIA—				
150 vis. at 70° F., 3 color, 400-405 flash:				
Zero pour test	.23½	.24	.23½	.24
10 pour test	.22½	.23	.22½	.23
15 pour test	.22	.22½	.22	.22½
25 pour test	.21½	.22	.21	.21½
180 vis. at 70° F., 3 color:				
25 pour test	.24½	.25	.24½	.25
200 vis. at 70° F., 3 color:				
Zero pour test	.30	.30½	.30	.30½
10 pour test	.29	.29½	.29	.29½
15 pour test	.28½	.29	.28½	.29
25 pour test	.27½	.28	.27½	.28

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Nov. 27	Nov. 20
Bright Stocks:		
190-200 D	.17	.17
150-160 D, 0-10	.14	.14
150-160 D, 10-25	.13½	.13½
150-160 24-40	.13	.13
150-160 E	.13	.13
Steam refined:		
630 light green (treated)	.08½ .09	.08½ .09
600 light green (untreated)	.06 .08	.06 .08
600 dark green (untreated)	.04½ .07	.04½ .07
PENNSYLVANIA—		
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 210; 540-550 flash):		
10 pour test	.20 .21½	.20 .21½
15 pour test	.19 .21	.19 .21
20 pour test	.18½ .20½	.18½ .20½
25 pour test	.16 .17	.16 .17
Steam refined:		
600	.08½ .09½	.08½ .09½
650	.12 .12½	.12 .12½
600 Pennsylvania flash	.13 .13½	.13 .14
630 flash	.17 .17½	.17 .18
600 Warren E filtered	.13 .13½	.13 .14

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Nov. 27	Nov. 20
124-126 white crude scale	.03¼ .03⅜	.03¼ .03⅜
PENNSYLVANIA—		
122-124	.0325 .0330	.0325 .0330
124-126	.0330 .0335	.0330 .0335
NEW YORK—		
Wax (a.m.p.) in bags fully refined:		
120-122	.0420 .0430	.0420 .0430
123-125	.0440 .0460	.0440 .0460
125-127	.0445 .0470	.0445 .0470
130-132	.05 .0510	.05 .0510
133-135	.0545 .0570	.0545 .0570
135-137	.0570 .0595	.0570 .0595
124-126 crude scale	.03⅛ .03¼	.03⅛ .03¼
Petrolatum in barrels in carload lots:		
Dark green	.01⅞	.01⅞
Amber	.02⅞ .03	.02⅞ .03
Extra amber	.03 .03⅛	.03 .03⅛
Lily white	.06⅝ .06¾	.06⅝ .06¾
Snow white	.07¾ .07⅞	.07¾ .07⅞
Cream	.05⅝ .05¾	.05⅝ .05¾
CHICAGO (f.o.b. switching district)*—		
122-124 wax	.0490 .0500	.0490 .0500
125-127 wax	.0515 .0525	.0515 .0525
127-129 wax	.0530 .0540	.0520 .0530
130-132 wax	.0590 .0600	.0590 .0600
132-134 wax	.0615 .0625	.0615 .0625

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F. a.m.p.

Export Prices

GASOLINE

GULF COAST—	Nov. 27	Nov. 20
U. S. Motor	.03⅞	.03⅞
60-62 400	.04	.04
61-63 390	.04⅛ .04¼	.04⅛ .04¼
64-66 375	.04⅜	.04⅜
LOS ANGELES, CALIF.—		
U. S. Motor grades:		
53-55 octane	.04 .04¼	.04 .04¼
55-65 octane	.04¼ .04½	.04¼ .04½
65-67 octane	.04½ .04¾	.04½ .04¾
67-69 octane	.04¾ .05	.04¾ .05
Above 69 octane	.05 .05¼	.05 .05¼
58-60 400 endpoint	.04¾ .05½	.04¾ .05½
KEROSENE		
GULF COAST—		
41-43 prime white	.03⅞	.03⅞
41-43 water white	.04	.04
44 water white	.04⅛	.04⅛
LOS ANGELES, CALIF.—		
41-43 water white	.04½ .04¾	.04¼ .04¾
LUBRICANTS		
NEW YORK (f.a.s. in bbls.)—		
Cylinder Stocks:		
600 Warren E	.20 .21	.20 .21
600 S.R. unfiltered	.15 .15½	.15 .15½
650 S.R. unfiltered	.18 .18½	.18 .18½
600 flash S.R.	.19 .19½	.19 .19½
630 flash S.R.	.23 .23½	.23 .23½
Bright Stocks:		
8 color	.22 .23	.22 .23
6½ plus color, in dilution	.21½ .22	.21½ .22
NEUTRAL OILS		
200-3 color	.34 .35	.34 .35
150-3 color	.27 .28	.27 .28
PARAFFIN WAX (Fully Refined)		
NEW YORK (prices per pound)—		
120-122 a.m.p.	.0405 .0425	.0405 .0425
123-125 a.m.p.	.0435 .0455	.0435 .0455
125-127 a.m.p.	.0440 .0465	.0440 .0465
128-130 a.m.p.	.04¾ .0490	.04¾ .0490
130-132 a.m.p.	.0495 .0505	.0495 .0505
133-135 a.m.p.	.0540 .0565	.0540 .0565
135-137 a.m.p.	.0565 .0590	.0565 .0590

Crude Oil Gravity Table

Gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas and Louisiana	9 Gulf Coast, Texas and Louisiana	10 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

Effective November 22, Panhandle Refining Co., purchasing oil in North Texas, posted below 29 degrees 60 cents; 29-29.9 degrees 61 cents with 2 cents added for each additional degree up to 40 and over, at 84 cents.

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedule: Below 25°, 76 cents; 25-25.9°, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedules at below 29°, 84 cents, excepting Philtex Oil Co., which begins with below 31° at 88 cents.

Column 1—Effective September 29, Texas Co. of Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanetex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma;; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Philtex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; October 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2—Effective September 29, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29°, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3—Effective September 29, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 22, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. Effective March 17, 1934, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co. Starting with below 25°, 71 cents, adding 2 cents for each degree upward to 40 and over at $1.03.

Column 4—Effective September 29, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day Philtex Oil Co. posted below 31°, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 5—Effective September 29, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Philtex Oil Co. posted below 31°, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 6—Effective September 29, by Humble Oil & Refining Co. and Tide Water Oil Co. and on September 30, by Texas Co., which on September 29 had posted a schedule of $1.07 to $1.12 with a 1-cent spread on each degree.

Column 7—Effective September 29, by Stanolind Oil & Gas Co.

Column 8—Effective September 29, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana; 26-26.9°, 84 cents with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana; below 26°, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 26°, 70 cents, with 2 cents added for each degree upward to 34° and over at $1; and in Black Bayou and White Castle, Louisiana: Below 29°, 80 cents, with 2 cents added for each degree upward to 34° and over at $1.10.

Column 9—Effective September 30, Texas Co. (On September 29, Texas Co. had posted a schedule of 2 cents on each degree, but changed it on September 30.)

Column 10—Effective September 29, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 33)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas $1.00
Corsicana (heavy) (June 17, 1933)* ..... .80
Other fields ..... (See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., Empire Oil & Refining Co., and Atlas Pipe Line Co. posted 80 cents per barrel in East Texas, but on November 3 resumed its posted price of $1 per barrel, making it retroactive to October 23.

*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933) ..... $.70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933) ..... .75
Pecos County, Yates shallow Pool (Sept. 29, 1933)* ..... .65
Jones and Fisher Counties*. See gravity table

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers.
..... (See gravity table)
Tomball (see note)* $1.15
Livingston (Sept. 29, 1933)† 1.00
Cleveland (Jan. 11, 1934) 1.00
Greta (Sept. 29, 1933) ..... .85
Refugio, light ..... (See gravity table)
Refugio, heavy (Sept. 29, 1933)‡ ..... .85
Markham and High Island ..... (See Gulf Coast gravity table)
Conroe ..... (See Conroe gravity table)
Bosco, La. (Oct. 15, 1934)§ $1.02

Note—Tomball, effective September 29, by Humble Oil & Refining Co. and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Crude Oil Purchasing Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy by Humble Oil & Refining Co. Cleveland (Liberty County) posted by Magnolia Petroleum Co. §Bosco posted by Pure Oil Co.

South Central and Southwest Texas

(See note below table)

Darst Creek ..... $.87
Mirando ..... .80
Luling (Sept. 29, 1933) ..... .75
Pettus 1.05
Salt Flat ..... .87
Lytton Springs (Sept. 29, 1933) ..... .95
Duval County (Sept. 29, 1933) ..... .80
Saxet ..... .85

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by

(Continued on Page 33)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

November 27, 1934

Taxes

The gasoline quotations given in the following tables include the 1-cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon or 2 cents a gallon off retail prices is permitted for purchases running between 4,000 and 10,000 gallons a month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Denver, Colo...	18.0	20.0	5.0	12.5
Pueblo	18.0	20.0	5.0	11.0
Grand Junction	18.5	20.5	5.0	15.0
Casper, Wyo. ..	18.0	20.0	5.0	11.5
Cheyenne	18.0	20.0	5.0	13.0
Butte, Mont. ..	21.0	23.0	6.0	17.5
Billings	21.0	23.0	6.0	16.5
Helena	22.0	25.0	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	19.0	21.0	5.0	16.0
Boise, Idaho ..	22.5	24.5	6.0	18.0
Twin Falls	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.0	20.0	*7.0	13.0

*One-cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territotry: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Chicago	14.3	14.8	4.0	8.0
Decatur, Ill. ..	14.4	9.9	4.0	10.2
E. St. Louis ...	14.1	11.0	4.0	9.5
Joliet	14.5	16.5	4.0	10.2
Peoria	14.4	11.5	4.0	10.2
Quincy	12.9	14.9	4.0	10.0
Davenport, Ia..	14.2	14.0	4.0	10.1
Des Moines ...	14.1	16.1	4.0	10.1
Mason City ...	14.4	16.4	4.0	10.1
Sioux City	14.3	16.3	4.0	9.7
Duluth, Minn. .	15.0	17.0	4.0	10.4
Mankato	14.7	16.7	4.0	9.5
Minneapolis ...	15.7	13.4	4.0	10.4
LaCrosse, Wis..	15.7	17.7	4.0	10.8
Green Bay	15.9	17.9	5.0	10.2
Milwaukee	15.8	17.8	5.0	9.0
Madison	16 0	18.0	5.0	9.9
Detroit, Mich. .	15.0	17.0	4.0	10.5
Grand Rapids .	14.7	16.7	4.0	10.2
Saginaw	15.0	17.0	4.0	10.5
Evansville, Ind.	13.5	12.5	5.0	10.0
Indianapolis ..	16.1	18.1	5.0	10.2
Scuth Bend ...	16.4	18.4	5.0	9.0
Fargo, N. Dak.	15.7	17.7	4.0	11.4
Huron, S. Dak.	16.2	18.2	5.0	11.4
Sioux Falls ...	15.6	17.6	5.0	10.9
Kans. C., Mo.*	13.6	15.6	4.0	7.5
Springfield	13.3	15.3	4.0	8.8
St. Louis	12.7	12.5	3.5	8.7
St. Joseph* ...	13.6	15.6	4.0	7.8
Wichita, Kans..	13.2	15.2	4.0	7.5
Bartlesville, Ok.	15.7	18.2	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Discounts to dealers, effective March 1, 1934: Undivided accounts, 4 cents a gallon on Red Crown Ethyl and Standard Red Crown, divided accounts, 3½ cents a gallon on Red Crown Ethyl and Standard Red Crown.

Stanolex Furnace Oil in Chicago

Effective Nov. 4, 1934, f.o.b. Chicago tank wagon prices: No. 1 (36-40 lt. stw. zero), less than 100 gallons, 8¼ cents; 100-149 gallons, 7¼ cents; 150 gallons or more, 6½ cents; No. 2 (30-34, stw. zero), less than 150 gallons, 7¼ cents; No. 3 (22-26, zero), less than 150 gallons, 7 cents; No. 4 (12-16 zero), less than 400 gallons, 6½ cents; viscosity of No. 4, 35 at 100° F.; No. 5, less than 400 gallons, 5¾ cents. For deliveries of more than stated quantities of Nos. 2, 3, 4 and 5, deduct 1 cent.

Naphtha

	Tank wagon*
Oleum spirits	16.9
1-cent Federal tax.	
V.M.&P. naphtha	18.0
Cleaners' naphtha	18.0
Stanisol	18.0

*Prices include 3-cent Illinois tax, but not Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Atlanta, Ga. ..	15.0	16.0	7.0	14.5
Augusta	16.0	17.0	7.0	14.5
Macon	16.5	17.5	7.0	14.5
Savannah	17 5	19.5	7.0	14.0
Birm'ham, Ala.	19.0	21.0	8.0	14.0
Mobile	16.5	17.5	8.0	12.0
Montgomery ..	17.0	18.0	8.0	15.0
Jackson, Miss..	17.5	19 5	8.0	13.0
Vicksburg	17.5	19.5	7.0	12.0
Jack'ville, Fla..	18.0	20.0	8.0	11.5
Miami	18.0	20.0	8.0	13.5
Pensacola	16 0	17.0	8.0	13.5
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky..	16.0	17.5	6.0	11.5
Covington	14.5	15.5	6.0	11.5
Louisville	16.0	17.5	6.0	11.0
Paducah	13.5	14.5	6.0	11.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Dallas, Tex. ...	11.0	13.0	5.0	6.0
Fort Worth ...	11.0	13.0	5.0	6.0
Houston	13.0	15.0	5.0	8.5
San Antonio ..	16.0	18.0	6.0	8.5
El Paso	17.0	19.0	5.0	11.0
Muskogee, Okla..	16.0	18.0	5.0	6.0
Okla. City	15.0	17.0	5.0	7.0
Tulsa	16.0	18.0	5.0	7.5
Ft. Smith, Ark.	14.5	16.5	5.0	8.0
Little Rock ...	17.0	19.0	7.5	9.0
Texarkana	13.0	15.0	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Atl'tic City, N.J.	9.5	12.0	4.0	10.0
Newark	7.4	9.9	4.0	8.5
Annapolis, Md..	14.5	18.0	5.0	10.0
Baltimore	14.0	16.5	5.0	9.5
Cumberland ...	15.5	19.0	5.0	12.7
Wash'g'n, D. C.	12.0	15.5	3.0	11.5
Danville, Va. ..	16.5	20.0	6.0	12.9
Norfolk	15.0	18.5	6.0	11.3
Petersburg	15.5	19.0	6.0	11.4
Richmond	15.5	19.0	6.0	11.7
Roanoke	16.5	19.5	6.0	12.9
Charls'n, W.Va.	15.0	18.5	5.0	12.6
Parkersburg ..	14.5	18.0	5.0	11.2
Wheeling	15.0	18.5	5.0	12.2
Charlotte, N. C.	16.5	19.0	7.0	13.5
Hickory	15.5	18.0	7.0	13.7
Mt. Airy	17.0	20.0	7.0	13.8
Raleigh	15.5	18.0	7.0	13.3
Salisbury	12.5	15.0	7.0	13.6
Charleston, S.C.	16.3	18.7	7.0	11.3
Columbia	14.9	17.4	7.0	13.2
Spartanburg ..	14.5	17.0	7.0	13.5

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Omaha	15.6	17.4	5.0	10.0
McCook	16.3	17.9	5.0	10.0
Norfolk	16.0	17.9	6.0	10.4
North Platte ..	16.4	18.3	5.0	8.0
Scottsbluff	17.1	18.3	5.0	9.0

Note—Discount to dealers, including any rentals under lease and agency agreements: Undivided accounts, Standard Red Crown and Red Crown Ethyl Gasoline 4 cents. Reliance (third brand) 3 cents, under service station price. Divided accounts, Standard Red Crown Ethyl Gasoline 3½ cents. Reliance (third brand) 2½ cents under service station price. Discounts to consumers covered only by form CD-1, official commercial consumer contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
N. Orleans, La.	14.0	16.5	‡8.0	†10.0
Baton Rouge ..	14.0	17.5	6.0	†12.0
Alexandria	15 0	18.5	*7.0	†10.0
Lafayette	15.0	18.5	*7.0	†12.0
Lake Charles ..	15.0	18.5	*7.0	†12.0
Shreveport	13.0	16.5	6.0	†10.0
Knoxville, Tenn.	15.0	17.5	8.0	13.5
Memphis	12.9	15.4	8.0	10.5
Chattanooga ..	13.5	16.0	8.0	11.0
Nashville	13.9	15.4	8.0	12.0
Bristol	13.9	16.4	8.0	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. ‡Includes 2-cent parish tax.

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price bases to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at dealer price less one-half cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank wagon†	Posted retail	Incl'ds tax	Kero. tank wagon
San Francisco .	15.5	18.5	4.0	12.5
Los Angeles ..	15.5	17.5	4.0	12.5
Fresno, Calif. .	17.0	19.0	4.0	14.0
Phoenix, Ariz..	17.0	19.0	6.0	‡16.0
Reno, Nev.	19.0	21.0	5.0	15.5
Portland, Ore. .	19.0	21.0	6.0	13.5
Seattle, Wash..	19.0	21.0	6.0	13.5
Tacoma	19.0	21.0	6.0	13.5
Spokane	22.0	24.0	6.0	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Phil'delphia, Pa.	11.5	11.5	4.0	9.0
Pittsburgh	14.0	16.0	4.0	10.0
Allentown	13.25	15.0	4.0	10.0
Erie	14.0	16.0	4.0	9.0
Scranton	13.25	15.0	4.0	10.0
Altoona	14.0	16.0	4.0	10.0
Dover, Del. ...	13.25	15.0	4.0	10.0
Wilmington	13.25	15.0	4.0	9.0
Spring'f'd, Mass	14.5	16.5	4.0	7.5
Worcester	14.5	16.5	4.0	8.5
Hartford, Conn.	13.5	15.5	3.0	7.5
New Haven ...	13.5	15.5	3.0	7.0
Providence, R.I.	13.0	15.0	3.0	7.5

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

New York and New England

SOCONY-VACUUM CO., INC.

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Albany, N. Y..	15.5	16.5	4.0	8.5
Met. New York	16.0	17.0	4.0	8.0
Buffalo	13.0	13.0	4.0	8.0
Rochester	13.5	13.5	4.0	8.5
Syracuse	16.0	17.0	4.0	8.75
Boston, Mass. .	15.0	16.0	4.0	8.0
Portland, Me. .	17.0	18.0	5.0	8.75
Manch't'r, N.H.	17.0	18.0	5.0	9.0
Burlington, Vt.	18.5	19.5	5.0	9.0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Ohio points ...	15.0	16.0	5.0	*12.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.

Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Service station	Incl'ds tax	Kero. tank wagon
Hamilton Ont..	†21.0	23.5	6.0	17.5
Toronto, Ont...	†21.0	23.5	6.0	17.5
Brandon, Man..	30.3	33.3	7.0	21.1
Winnipeg, Man.	28.7	31.7	7.0	20.2
Regina, Sask...	29.0	32.0	6.0	21.5
Saskatoon, Sask.	31.8	34.8	6.0	24.1
Edmonton, Alta.	31.2	34.2	6.0	23.7
Calgary, Alta..	28.5	31.5	6.0	21.0
Vancouver, B.C.	27.0	30.0	7.0	24.0
Montreal, Que..	24.0	27.0	6.0	17.0
St. John, N.B..	26.0	30.0	8.0	21.0
Halifax, N. S. .	26.0	30.0	8.0	21.0

*Imperial gallon used in Canada. †Governed by service station price.

Maritime provinces, all dealers 4 cents off service station price. All other provinces open dealers 2.5 cents off service station price and 1 cent additional to 100 per cent accounts.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of Louisiana, November 12, advanced tank wagon gasoline 3.5 cents and station gasoline 4.5 cents in New Orleans; November 15, reduced tank wagon gasoline 1 cent and station gasoline 1.5 cents; November 16, reduced station gasoline one-half cent; November 17, reduced tank wagon and station gasoline one-half cent further. November 12, advanced tank wagon gasoline .6 cent and station gasoline 1.1 cents in Alexandria, Lake Charles and Lafayette. November 12, advanced tank wagon gasoline .3 cent and station gasoline .8 cent in Baton Rouge. November 12, advanced tank wagon gasoline 3.1 cents and station gasoline 3.6 cents in Bristol; November 16, reduced tank wagon gasoline 1 cent and station gasoline 1.5 cents; November 17, reduced tank wagon and station gasoline 1.1 cents. The price change in New Orleans dated November 13 and published a week ago was incorrectly reported; there was no change.

Standard Oil Co. of New Jersey, November 10, advanced tank wagon and station gasoline .1 cent in Charlotte. November 12, advanced tank wagon gasoline 2.2 cents and station gasoline 2.7 cents in Parkersburg. November 13, advanced tank wagon gasoline 3 cents and station gasoline 4 cents in Danville; advanced tank wagon gasoline 2.8 cents and station gasoline 3.8 cents in Norfolk; advanced tank wagon gasoline 3.2 cents and station gasoline 4.2 cents in Petersburg and Richmond; advanced tank wagon gasoline 3.2 cents and station 3.7 cents in Roanoke; advanced tank wagon and station gasoline 1 cent in Charleston and Wheeling. November 14, advanced tank wagon gasoline 1.9 cents and station gasoline 2.4 cents in Annapolis; advanced tank wagon and station gasoline 3.5 cents in Baltimore; advanced tank wagon and station gasoline 1.5 cents in Cumberland; advanced tank wagon gasoline 3 cents and station gasoline 4 cents in Washington.

Standard Oil Co. of Kentucky, November 20, reduced tank wagon gasoline one-half cent and station gasoline 1 cent in Lexington. November 17, reduced station gasoline one-half cent in Louisville. November 17, reduced tank wagon gasoline 2.5 cents and station gasoline 3.5 cents in Paducah. November 20, advanced tank wagon and station gasoline one-half cent in Atlanta, Augusta, Macon and Savannah. November 17, advanced tank wagon and station gasoline one-half cent in Pensacola.

Standard Oil Co. (Indiana), November 24, advanced tank wagon and station gasoline 2 cents in Chicago. November 23, advanced tank wagon gasoline .3 cent and station gasoline 1.7 cents in Madison. November 24, advanced tank wagon and station gasoline 1.2 cents in Milwaukee.

Atlantic Refining Co., November 17, reduced tank wagon and station gasoline 1.5 cents in Philadelphia. November 19,

(Continued on Next Page)

NEWS FOR SALES DEPARTMENTS

Investigation Ordered in Michigan Code Violations

Complete investigation and immediate prosecution of any violations of the petroleum industry code in the gasoline price war in progress in western Michigan cities including Muskegon, Grand Rapids, Kalamazoo and other smaller communities was promised yesterday by Joseph M. Donnelly, U. S. District Attorney, following a conference with code authorities and federal investigators in Grand Rapids.

A special office will be established Monday in the Grand Rapids Federal building to receive complaints to the state code authority and federal investigators. Attorney Donnelly urged anyone having any complaint to present it to the temporary office.

"This condition now threatens throwing out of employment many persons working in the petroleum industry," he stated. These people are threatened by the loss of employment as a result of the demoralized price structure now prevailing in Grand Rapids and vicinity.

"If violations are reported to this office, which upon investigation prove to be substantiated by satisfactory evidence, authorization to institute legal proceedings will be immediately requested from the attorney general," Donnelly stated.

Gasoline is being sold at all-time low prices, taking the four cents a gallon state and national taxes into consideration, throughout western Michigan. Retail prices range as low as 12.4 to 15.4 cents a gallon for three grades which in some cases is alleged to be less than cost.

Officials who conferred with Attorney Donnelly included Allen J. Furlow, Washington attorney representing the petroleum administrative board; R. P. Peck, secretary of the Michigan state petroleum code committee, and Walter F. Wagner, chairman of the clearance committee of Zone 4 and another federal investigator whose name was withheld.

The conference was called to perfect a plan of procedure for the investigation and subsequent prosecutions if violations of the code of fair competition for the petroleum industry are discovered.

AUTOMOBILE SALES INCREASE

Sales of new passenger automobiles in California, Oregon and Washington during October were approximately 13 per cent ahead of sales for the same month a year ago, totaling 12,608 compared to 11,170 in October, 1933, it was reported by the Associated Oil Co.

Sales for the first 10 months of 1934 were fully 24 per cent ahead of the same period of last year, numbering 135,692 this year as against 109,285 for the 10 months of 1933.

Despite the expected seasonal decline, both Oregon and Washington registered slight gains in October over the previous month.

WHITE STAR CONFERENCE

WINDSOR, Ontario, Nov. 24.—A conference of over 75 White Star Refining Co. dealers in Kent and Essex Counties, held here recently heard addresses by George Willoughby, general sales manager for the Detroit-Border area; D. H. Musselman, Canadian general manager; John Frost, chief lubrication engineer, and Thomas E. Walsh, Canadian advertising counsel.

JOINS SAUNDERS PETROLEUM

E. F. Borgolte, formerly with the Security Petroleum Co., has joined the Saunders Petroleum Co. with offices in Kansas City, Mo.

Low Cost Highway Construction Studied at Fourth Annual Road Oil Congress

Meeting in Tulsa last week, a group of about 300 men representing highway commissions, oil companies and highway construction equipment manufacturers from 18 states brought to a successful close the fourth annual Road Oil Congress. George J. Stein, president of the congress, declared himself highly satisfied with the work accomplished at the meeting.

The papers presented before the congress were generally of a descriptive nature concerning the application of asphalt and road oils to highways and the co-ordination of construction and tax programs. Papers of a strictly technical nature were lacking as it was considered that having been studied in past meetings, they should give place this year to matters of a more economic nature.

"The Relationship Between Tax Costs and Road Costs," by C. S. Lee, which was read by Emby Kaye, vice president of Skelly Oil Co., completely covered that subject and by statistical means gave a graphic picture of the highway situation at the present time. The solution of state highway problems and a general discussion of state road programs comprised the subject matter of other papers. In one of these, "Farm-to-Market and Feeder Roads of Low Initial Cost, All-Weather, Dust-Free and Low Maintenance Cost Nature," by Harold Allen, of the Kansas State Highway Commission, the author deplored the actions of some refiners in presenting different quotations to highway commissions and private contractors. Following the paper this question was discussed pro and con and while it was agreed that unscrupulous "dumping" of cheap oils has been practiced in some cases, it was held by refining representatives that the complications confronted in manufacturing asphalt products and the lack of cooperation between many highway commissions and refiners as regards specification requirements resulted in the unsatisfactory relations existing. Demonstration of road construction equipment was featured in two other papers.

In connection with the congress, the Oklahoma State Association of County Commissioners met to vote a protest to the Gasoline Tax Diversion Acts. The association will send a committee to Governor-elect Marland in the near future to lay before him the highway situation in the State.

A. M. Maxwell » » »

AS VICE PRESIDENT and director of sales for the Standard Oil Company of Ohio, A. M. Maxwell looks back upon a varied experience in the marketing of petroleum products. Mr. Maxwell was born in Knoxville, Tenn., in 1895. After attending prep school he entered Cornell and received his degree with the class of 1918. In 1917, however, he enlisted in the Navy and saw action for 23 months.

Returning after the war, he became associated with the Standard Oil Company of New Jersey as a refinery worker at the old Eagle works. From here he was transferred in swift succession to the sales department of the Newark branch and then to the assistant managership of the fuel oil and asphalt division under C. G. Sheffield.

The formation of the Ethyl Gasoline Corporation in July, 1924, introduced Mr. Maxwell to an entirely new phase of selling. Representing the Standard of New Jersey as a director on the board of the new company, he also was made vice president in charge of sales. In this capacity he traveled in practically every state in the Union contacting oil companies and leasing the Ethyl rights to them. When this work was mostly completed he was sent abroad where his duties of proving patents and starting the sale of Ethyl Gasoline took him into all of the major European countries.

In February, 1929, the Standard Oil Company of Ohio offered Mr. Maxwell the position of vice president. He accepted and has since continued with this company, managing from his offices in Cleveland, the sales of products from the three Ohio refineries.

State Groups Stand Against Tax Diversion

During the past two years, by an act of the legislature, 1933 session, there has been diverted from the highway funds of the State of Oklahoma approximately $3,000,000 per annum in gasoline tax money; this money being diverted from its proper use and converted to the purpose of paying off deficits created in past years by issuance of warrants over and above revenues. The gasoline tax which produces this money is levied upon the citizens of this state for the purpose of improving and building roads and highways in the state.

A vigorous protest against the gasoline tax diversion acts has been voted by the Oklahoma Municipal League in co-operation with the Anti-Gasoline Tax Diversion Association and other state organizations. It is pointed out that the use of the $3,000,000 for highway construction will draw from the Federal Government a like sum, making possible the employment of much additional labor in the state. The need for feeder or farm-to-market roads is cited.

RAIL CAR FUEL POSSIBILITIES

Due to the lack of service information of railway use of fuels other than coal, predictions of trends in fuel requirements in rail cars are difficult to make. In an attempt to trace these trends, basic factors were closely adhered to in the paper "Rail Car Fuel Possibilities," presented before the American Petroleum Institute at Dallas, November 15. D. P. Barnard in presenting the paper drew attention to the fact that until the recent streamlined trains built expressly for Diesel motive power, old-type trains were used with revamped power plants in place of the original steam engine.

The important factor in rail car performance is, of course, the power-weight ratio. The important factors in rail car economy are in vehicle weight per passenger and the horsepower per passenger. Some idea of the actual relative power which must be supplied if a rail car or motor train is to meet these performance characteristics may be gained from the following facts: Of the four types of vehicles, train, bus, automobile and airplane, the train has the highest revenue load, vehicle weight per passenger and gross weight per horsepower. It ranks next highest to the airplane in horsepower per passenger and third highest in revenue load per horsepower. Refinements in car construction and more compact, lighter power units will tend to lessen these differences between trains and other vehicles.

INVESTIGATE MASS BUYING

OTTAWA, Canada, Nov. 24.—It is understood that the investigation now being carried out by the Royal Commission on price spreads and mass buying, appointed earlier in the year by the federal parliament, will be widened to include gasoline refining and price spreads.

ORGANIZE MARKETING COMPANY

H. P. Herzog, well known marketer and in recent years identified with the J. D. Wrather interests, resigned his position as sales manager for the Overton Refining Co. on November 15 and has organized the Herzog Petroleum Co. with offices in Overton, Tex.

Late Fields

GULF COAST

HOUSTON, Tex., Nov. 27.—Steen Drilling Co.'s No. 1 Stansel, wildcat in the A. Esparanza Survey, Calhoun County, opened the first production for the county, when completed for an estimated 30,000,000-foot gas well with 3 to 5 bbls. of distillate per hour through a three-sixteenths inch choke with tubing pressure 2,350 pounds and casing pressure 2,250 pounds.

OKLAHOMA

Eason Oil Co.'s No. 1 Herren, C N half NE NE Section 4-16-4w, south end of the Crescent Field in Logan County, flowed 235 bbls. in 24 hours from Wilcox sand at 6,266-90 feet and was being cleaned out.

Oil Men Meet With View of Stopping Market Evils

NEW YORK, Nov. 27.—Starting Wednesday representatives of leading oil companies in this section will resume discussions looking toward the ending of unsatisfactory marketing conditions. Meetings were held for two weeks earlier in the month, ending when oil men left to attend the A.P.I. meeting in Dallas. It is understood that the discussions have reached the point where definite proposals are to be submitted for final action.

It is said that certain proposals involving marketing practices have been discussed informally with representatives of the Petroleum Administrative Board in Washington and it is assumed that no final action will be taken except as approved by the Government's representatives.

Independent marketing organizations will not attend the meetings tomorrow which will be devoted to ironing out differences of opinion among major marketing units. The proposals to be considered apply to 22 states in the eastern and southeastern part of the United States and to the District of Columbia.

Definite Action Soon on Opening of Oil Exchange

NEW YORK, Nov. 27.—It is expected that the commodity exchange here will take definite action before the end of the week in regard to starting an oil exchange within the next few weeks. It is understood that two separate future contracts covering crude oil and gasoline have been drawn up and these contracts along with other details of trading will come up for approval by the board of directors within the next few days. Officials of the commodity exchange have refused to give out detailed information regarding their plans at this time. The matter of an oil exchange has been under consideration by a special committee since the idea was broached for consideration by The Oil and Gas Journal in its issue of October 18.

GOVERNOR'S CONFERENCE

Governor-elect E. W. Marland of Oklahoma has invited Governors and Governors-elect Edwin C. Johnson of Colorado, Martin L. Davey of Ohio, Harry Horner of Illinois and H. G. Kump of West Virginia to the oil conference at Ponca City, Okla., December 3.

The governors of Texas, Kansas and California previously had been invited, Governor-elect Allred of Texas having already accepted.

RETAIL PRICE CHANGES

(Continued from Preceding Page)

reduced tank wagon gasoline one-half cent and station gasoline 1.5 cents. November 17, reduced tank wagon kerosene one-half cent in New Haven.

Continental Oil Co., November 21, reduced tank wagon and station gasoline 2 cents in Grand Junction.

Magnolia Petroleum Corp., November 22, reduced tank wagon and station gasoline 1 cent in Fort Worth. November 23, reduced tank wagon and station gasoline 1 cent in Texarkana.

OKLAHOMA PRICES REVISED

Effective November 22, the Continental Oil Co. revised its tank wagon and station gasoline prices in Oklahoma to equalize what has appeared previously to be inconsistencies among the various cities and towns and among the three grades sold. Major marketers in Oklahoma generally accepted the revised schedule and most of them posted new prices on Tuesday. The state-wide price schedule of the Continental follows:

	Service station	Tank wagon
Third grade gasoline (demand)	.15½	.13½
House brand (Conoco)	.17	.15
Premium (Conoco Ethyl)	.19	.17

State Tender Board and New Allowables Before Texas Railroad Commission

AUSTIN, Tex., Nov. 26.—A plan for a statewide tender system under which crude or products could be transported without a permit from the Railroad Commission was outlined to the commission today by E. N. Stanley, East Texas enforcement officer.

Judge Charles Black, of Austin, representing Marathon Oil Co. and others, declared the law should be applied only where the evil existed, in East Texas.

Edward Clark, assistant state attorney general, advocated tenders to ship by-products as a sure method of barring illegal oil. He told the commission to reissue its order of August 29 requiring tenders to ship refined products, make it statewide and delete trucks as the new law including them is not effective until December 25.

Substantial cuts in the allowable production of the East Texas, Government Wells and West Central Texas Fields were recommended to the commission by Chief Petroleum Engineer Gordon Griffin. Recommendations on the proposed cuts were offset by requests from Van, Yates and Conroe operators for increases.

The cuts in East Texas and Government Wells would be to equalize reservoir pressures to those two fields. Mr. Griffin testified East Texas pressures last month declined 6 pounds per square inch, the first decline since June. If the field should be cut back to 400,000 bbls. daily, he believed pressures would tend to build up. This top allowable would mean an allocation to each of the 15,-161 wells in the field of 3.45 per cent of an hour's potential producing capacity.

F. W. Fischer, Tyler attorney, protesting an East Texas cut, asserted that East Texas is allowed to produce but one-sixth of 1 per cent of its potential.

"We have the property and you will not let us produce it," said Mr. Fischer, "and that constitutes confiscation, even though the oil is retained in the underground reservoirs. An increase should be allowed. It will not produce waste."

The Railroad Commission has eliminated the 1 per cent deduction formerly allowed in its rules for strappage, which it is said, based on production reports for one year, will mean a saving to producers and royalty owners of 3,647,216 bbls., and an increased state royalty collection of $20,000 a year.

Faintly Improved Market Discernible in Group 3

(Continued from Page 26)

gasoline from the refinery to sell it there at a loss, but instead would have the retail concern controlled by it purchase gasoline from its competitor right in the district and sell that gasoline at a profit in competition with the other company.

Companies which have cut their retail prices to compete with trackside dealers have maintained, or increased, their gallonage, but have paid severely for doing it and have demoralized the market.

Then there has been the seasonal factor, which has meant a reduction of close to 30 per cent in the sales of third-grade gasoline. As the spot market centers largely around this grade the falling off in volume of sales has an appreciable effect on the market itself.

Natural Gasoline Up

Natural gasoline, which was showing increased firmness last week, advanced into new ground and was commanding about a quarter-cent more throughout all grades. An important factor in the heightened activity of the naturals has been the virtual withdrawal of East Texas as a major contributor of its highly volatile gasoline, with the result that refiners in other districts, making up for the East Texas recession, have been buying more natural to impart needed volatility to their own product.

It is believed too that prolongation of the peak season for natural gasoline this year may be attributed in large measure to the fact that prices at no time have reached unusually high levels. Records of other years indicate that extremely high prices at the peak season are likely to result in an early and precipitous drop.

The demand for furnace oil was far from strong. It was explained that there has not yet been enough cold weather at points of distribution to stir active spot buying. Prime white distillate was looking better. Kerosene showed a softening tendency, but not enough to change prices.

U.G.I. gas oil for cracking purposes was being held closely by refiners with cracking equipment, who regarded it as worth more than 2 cents to themselves though there was no market for it at the higher figures. Substantial quantities of the material were being moved to the Gulf for coastwise shipment.

Bright and cylinder stocks and neutrals were in satisfactory position, with no changes in price. There was no decline in the strength of wax.

AMAZON HEARING NEXT WEEK

WASHINGTON, D. C., Nov. 26.—Oral arguments on the Amazon and Panama cases are scheduled to be heard either December 11 or 12 by the Supreme Court.

Congressional Sub-Committee in Texas Panhandle

Left to right: William P. Cole, Jr. (D) Maryland, chairman; Charles A. Wolverton, (R) New Jersey; Edward A. Kelly (D) Illinois; Samuel B. Pettengill, (D) Indiana and Carl E. Mapes, (R) Michigan

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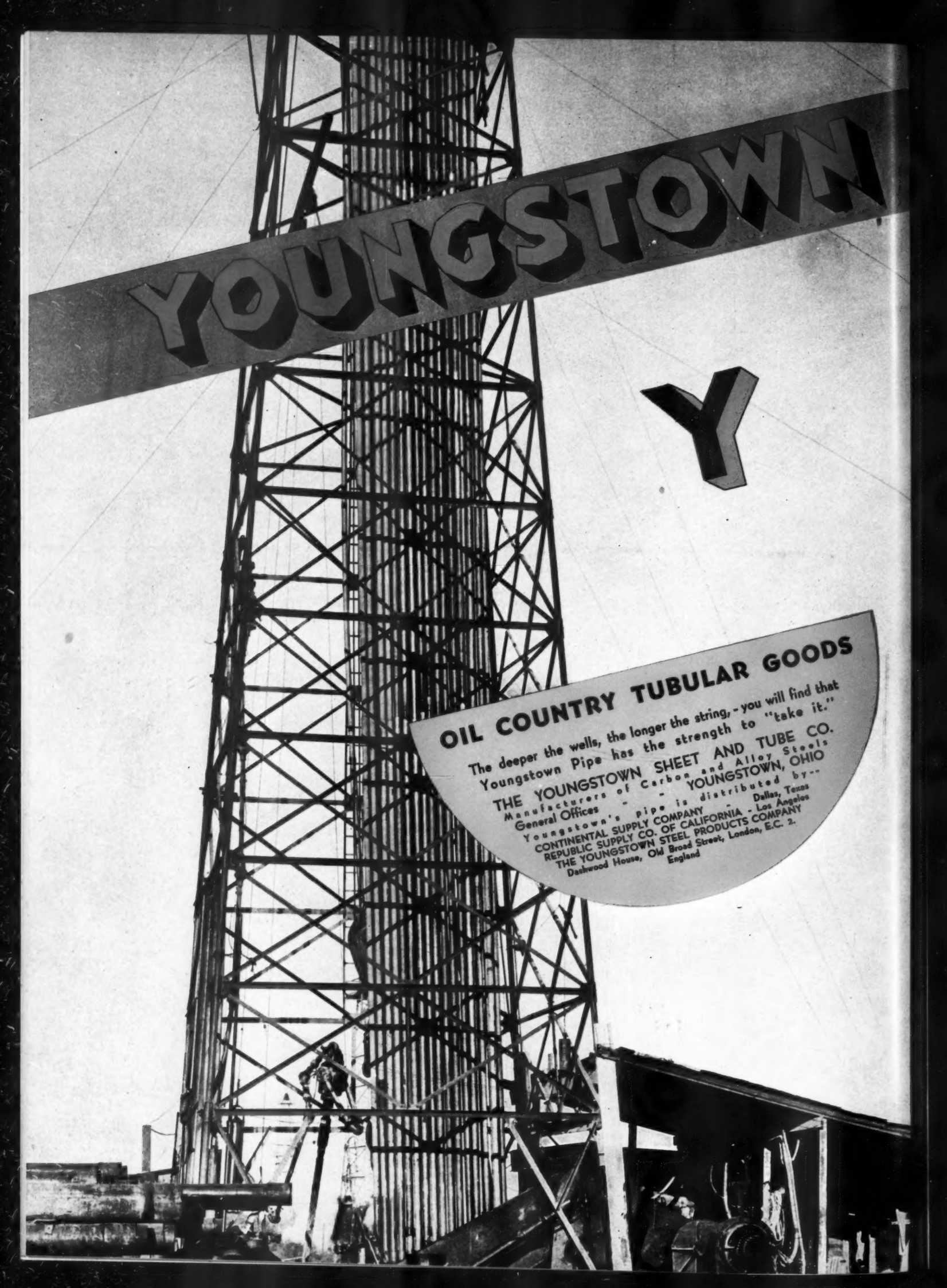
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Tank Wagon and Service Station Prices in Chicago Area Show Improvement

By SPECIAL CORRESPONDENT

CHICAGO, Nov. 26.—The most encouraging development in oil market affairs in this territory for some time is the turn for the better in tank wagon and service station prices which got under way in the past few days and as this is written appears to be gathering more momentum. Close observers now are inclined to believe that the recent disorganization in the retail markets in the Middle West is on the way out, by means of advances in these prices at many scattered points, rather than by a general over-all advance.

Ten days ago, considerable gloom overhung the trade because of the widely held theory that tank wagon and service station price advances in any substantial amount were unlikely and that this might cause collapse of the tank car prices again in view of the new suspension of the major company gasoline buying program. However, the speed with which many local price wars are being partially or completely ironed out has caused considerable surprise, many having felt it would be longer before agreements could be reached on the desirability of advancing prices.

Easiness in Tank Car

At the same time, it is true that a little easiness has crept into the tank car price situation, as the result of some increased offerings into the Middle West from various sections of the Mid-Continent from refiners who have felt the need of lightening their holdings. Moreover, with light spot buying, the market has not shown much ability to absorb even such small offerings, with the consequence that fractional declines have occurred in prices of certain tank car gasoline items. Opinion now differs as to what may be expected, but it generally is felt that there is a good chance of stopping the tank car decline before it has proceeded very far and that something like a fair degree of stabilization is possible in tank wagon and service station markets. The advances have been small in some cases and in others complete restorations have been made. Stabilization committees have been extremely busy recently. Seeing success in some regions, they have redoubled their endeavors.

Still Oppose Differential

The large stumbling block is the conflicting views on the retail price differential question. Officials of several major companies in the past few days have come out flatly with the statement that further negotiations on the question of a compromise or a settlement on this matter are useless so far as they are concerned, as they refuse to grant any differential. On the other hand, those contending for the differential are asking for larger than the one-half cent they assert they still have. In the Chicago situation, where a 2-cent advance was engineered over the week-end, some independents have persistently undersold majors, although the latter ostensibly have not recognized that they were being undersold. It is understood that Standard Oil Co. of Indiana, where it is advancing its prices at various points, is merely meeting advances of other sellers and persistently refuses to admit the claim that its prices should be above those of certain smaller competitors.

May Restore Buying Power

Better conditions are reported from Chicago, Milwaukee, Madison, Decatur, Davenport, and numerous other points. At all these points and many others, both large and small, prices either have been

(Continued on Page 78)

Crude Oil Prices

(Continued from Page 29)

Humble Oil & Refining Co. and Texas Co Effective September 20 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Iles, light (Sept. 29, 1933)	$.96
Iles, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.80
Fort Collins and Wellington, Colo. (June 17)	(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (May 1, 1934)	.70
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and LaBarge (Sept. 9, 1933) See Stanolind Mid-Continent price schedule	
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Dutton Creek (July 8, 1933) See Mid-Continent gravity prices	
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 15, 1931)	.70
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage	1.08
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome:	
Below 18° (July 1, 1934)	.52
18° and above (July 1, 1934)	.62
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera	1.16
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N. Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co.

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.70
Tullos, Urania, La. (Jan. 13, 1934)	.87
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Converse, La. (Mar. 17, 1934)	1.03
Elm Grove, La. (Sept. 29, 1933)	.75
Holly, La. (Nov. 17, 1934)	1.03
Pleasant Hill, La. (Mar. 17, 1934)	1.03
Zwolle, La. (Mar. 17, 1934)	1.03
Champagnolle, Ark. (Mar. 17, 1934)	.81
Lisbon, Ark. (Mar. 17, 1934)	1.03
Stephens, Ark. (Sept. 29, 1933)	.70
Urbana, Ark. (Mar. 17, 1934)	.60
Other fields (See gravity table)	

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroluem Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urbana posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co. Champagnolle by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective Nov. 6, 1934)

Bradford, Pa.	$2.30
Allegany, N. Y.	2.30

SOUTH PENN OIL CO.
(Effective Nov. 6, 1934)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.30
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.97
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.92
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.82
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933)	1.87

PENNZOIL CO.
(Effective Nov. 6, 1934)

Pennsylvania Grade Oil in National Transit Lines:	
Group A Includes Cochran, Franklin, Hamilton and Doolittle districts.	$2.32
Group B Includes Titusville district.	2.21
Group C Includes Turkey and Tidioute districts.	2.20
Group D Includes Bear Creek and Porkey districts.	2.19
Group E Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacey and Kinzua districts. Price depends on length of pipe line haul to plant at Oil City.	2.17

PURE OIL CO.
(Effective Nov. 6, 1934)

Cabin Creek, W. Va.	$1.92
Bradford Hollow, W. Va.	1.92
Kelly Creek, W. Va.	1.92

CREW-LEVICK CO.

Oil City-Titusville	$2.22

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.30
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut in
Western Kentucky (May 26, 1934)	1.03
Midland, Mich. (Sept. 30, 1933)*	1.02
West Branch, Mich.	.86
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.22

*Posted by Pure Oil Co. and Simrall Pipe Line Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted prices. West Branch, Mich., posted by Simrall Pipe Line Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.19
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear naphtha	$2.55
Discolored naphtha	2.37
Crude oil, 50 gravity	2.19
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.50

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Mexico

Panuco*	$1.00

*F.o.b. ship, based on September transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.72	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.73	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.92	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standar Oil Quotations

Mountain View—Effective July 3, 1934, the following are the prices of the Standard Oil Co. of California for its current purchases of crude oil at the well in the Mountain View Field: 14 to 19.9 degrees, 57 cents; 20-20.9, 58 cents; 21-21.9, 59 cents; 22-22.9, 61 cents; 23-23.9, 63 cents; 24-24.9, 66 cents; 25-25.9, 69 cents; 26-26.9, 72 cents; 27-27.9, 75 cents; 28-28.9, 78 cents; 29-29.9, 81 cents; 30-30.9, 84 cents; 31-31.9, 87 cents; 32-32.9, 90 cents; 33 degrees and above, 93 cents.

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19 19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon an Olinda up to 25-25.9, and Torrance up to 25-25.9.

Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.15; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 25 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

Millions to Be Spent on Refineries in Italy

(Continued from Page 16)

be paid for products obtained from asphaltic and bituminous rocks and fossils in Italy.

Taxes and Duties

Plans to encourage the building of refineries in Italy first became officially known the latter part of last year through a royal decree which changed the tax rates applying to products refined in Italy and those imported. Later this decree was converted into law which became effective February 8, 1934. It was explained at that time that new regulations would shortly be announced to govern the approval of licenses for construction of refineries and warehouses and the importation of petroleum products. As previously explained, these regulations were recently announced.

In many respects the Italian program is similar to that of France. The latter has resulted in the construction of several refineries in France during the past three and one-half years with a combined capacity of approximately 100,000 bbls. The French refineries have been built by companies marketing in that country which have taken advantage of the lower taxes applying to products refined at domestic refineries. As in the case of France, the Italian program has been brought about by a desire to expand domestic industries coupled with the necessity of having petroleum products available in case of a national emergency.

In general, the effect of the law of February 8 was to drop all import duties on crude oil to be refined in Italy. On the finished products those refined at domestic refineries were exempt from certain taxes which applied to imported products. The comparative situation which developed between imported and domestic products, including crude oil, is shown in the accompanying table giving duties and taxes in effect at this time in Italy.

As shown in the table, the locally refined products have an advantage which large distributors cannot afford to ignore. This probably can better be appreciated by many readers if translated into measures and currency more commonly used in the oil industry. Based on the present rate of exchange for the lira, the total taxes on locally refined gasoline (shown in table as 161 lire per 100 kilograms) amount to 44.8 cents per American gallon. In the case of the imported gasoline the tax totals 41.5 cents per gallon, a difference of 3.3 cents per gallon in favor of the locally refined products. The difference is even greater in the case of kerosene and lubricating oils. To many these taxes will appear prohibitive. They are reflected in the fact that motor fuels are retailing in Rome and other large consuming centers in Italy at this time at approximately 70 cents per gallon.

This advantage in costs between an importer and a locally refined operation, aside from any lubricating plant operations, could easily amount to 75 or more cents per barrel in favor of the locally owned refinery operation.

Present Refineries

At present there are several small refineries in Italy with a total capacity of approximately 10,000 bbls. daily. Reports for 1933 showed that the actual crude runs to stills of these plants averaged about 3,500 bbls. daily, so that they supply less than 25 per cent of the country's gasoline requirements. In 1926, following the action of the government in permitting fuel oil and gas oil to be imported free of duty when used in cracking operations, several cracking units were built and the production of gasoline from these operations rapidly increased.

Due to the decline in revenue, because the gasoline from these cracking units replaced gasoline previously imported, the government, through a change in its taxing and duty schedules, nullified a large part of the advantage of this arrangement and cracking operations were curtailed.

Drill Pipe Twist-offs Due to Long Column Failure

(Continued from Page 12)

in pounds per foot of length it is a simple mathematical calculation to find the load imposed upon any section of unsupported pipe by the upper portion.

For example, if the cave occurs at a depth below the surface that will impose a load of approximately 7,500 pounds upon the lower portion of the drill stem opposite the cave, and this unsupported section of pipe is 100 feet long it would not be safe to use the 4½-inch 16.60-pound pipe.

Fortunately the salt encountered in these wells in the Permian Basin is interspaced with strata of harder material so the cave is hardly ever continuous for the entire reported thickness of the salt zone. This condition affords support for the drill pipe passing through this section for where the hole is but little larger diameter than the drill pipe the pipe cannot bend or buckle to any serious extent.

Salt Dissolved

The drill stem failures reported to have occurred in caves near the base of the salt strata have probably been caused by the relatively large radius of that section of the hole.

These larger radius sections of the hole may be caused by the hydraulic action of the drilling fluid induced through the settling and packing of larger particles of cuttings that have accumulated in the space between drill stem exterior and wall of the hole due to lower velocity of the upward current of drilling fluid as it flows through the enlarged cross-section of hole.

The upward current of drilling fluid has certain carrying capacity and particles of cuttings from the formations will continue to move upward once they are picked up at the bottom of the hole if the velocity of current is maintained. Current velocity will be maintained practically constant if the annular space between the drill stem and walls of the hole is unchanged. In the casing this area is practically constant with flush joint drill pipe, without rubber protectors.

With velocity practically constant the particles are carried upward, or if they are too large to be carried in the current they would sink following the laws of free settling.

Free and Hindered Settlings

In an article by the writer published in The Oil and Gas Journal, May 22, 1930, page 50, the carrying capacity of mud fluids was discussed.

To again quote from the work of Dr. R. H. Richard's on "Ore Dressing," it may be stated that:

"Free settling is where individual particles fall freely, either in still water or against an opposing upward current, without being hindered by other particles.

"Hindered settling is where particles of mixed sizes, shapes and gravities in a crowded mass, yet free to move among themselves, are sorted in a rising current of water, the velocity of which is much less than the free falling velocity of the finer particles, but yet enough so that the particles are in motion."

If the above statements are carefully considered it is possible to understand the mechanics of enlarging a cavity in a drilled hole due to the cutting action of the up-current of drilling fluid.

In the portions of the hole where the annular space between drill stem and the walls of the hole or the inside of the casing is practically of constant area the current will carry its load of cuttings with only a sorting action that tends to move the smaller, and flatter pieces and particles of lower specific gravity upward within the drilling fluid faster than the larger and heavier pieces of cuttings.

When the increased diameter hole, caused by caving or washing out of soluble sediments by the drilling fluid, is encountered by this upward moving current with its load of cuttings the current velocity is decreased and the larger and heavier particles tend to lag behind, held back by the pull of gravity and the difference in specific gravity between the particle and the drilling fluid.

When this happens there is an accumulation of a large quantity of relatively large pieces of cuttings within the caved portion of the hole and when their mass increases so motion among the particles practically ceases they will pack and tend to dam the upward flow of the drilling fluid.

As this mass of cuttings pack above the annular space at the top of the small diameter hole and drill pipe the velocity of the current is opposed by the mass of packed particles. The force applied by the pumps is still exerted and the hole kept full of mud fluid so the tendency of the current is to increase its velocity through the small spaces existing between the particles, and between the mass of particles and the walls of the hole.

If the wall of the hole is composed of a soft formation the cutting action of this higher velocity drilling fluid jetted against it will cut out the formation without carrying any appreciably greater quantity of cuttings upward in the hole. The cave may be materially enlarged by this cutting and jetting action and this action will cause a section of the drill stem to be unsupported with accompanying twist-offs.

Theoretically the mud fluid should be of such a character as to carry the cuttings in suspense. Practically it is very hard to produce such a condition in a well with enlarged sections of the hole where the classifying action can take place. The mud has to have some fluidity and the action of the drill stem turning in the hole acts as a beater to break it up and cause the cuttings to separate out if the up-current velocity is lowered.

It is best to wall the hole so the minimum of caving occurs, and with drilling equipment and mud admixtures available to bring about the desired results, and with drill pipe built to withstand the various stresses and strains set up in drilling a hole it seems only necessary to use these materials and methods to solve the problems encountered in various areas.

Sinclair Gives Committee Frank Views on Situation

(Continued from Page 9)

pose they serve; namely, the connection between production and refineries, and between the refineries and the market. Interstate pipe lines are under the supervision of the Interstate Commerce Commission. Pipe lines as common carriers are regulated under existing laws for the protection of the transporters of oil and the public.

The divorcement of pipe lines would be injurious, if not wholly disastrous, to some companies. Neither the public nor the industry could derive benefit from divorcement of pipe lines.

Refining

Refining activities, in my opinon, should have consideration in arriving at an understanding of the industry as a whole. Hundreds of millions of dollars are invested in plants for the refining and processing of more than 2,500,000 bbls. of oil daily. These refineries represent one of the industry's greatest achievements. Every advance in the art is availed of to improve products, adapt them to changing needs and reduce their cost. To keep up with these improvements involves enormous and never-ending capital outlay. Every refiner has before him at all times improvements recommended by his engineers and experts requiring millions. Yesterday it may have been improved cracking units. Today it is costly plants for making better lubricants. Of this there is no end and capital must continue to be found for these improvements if the industry is to advance as it has in the past.

Perhaps the main accomplishment in this department has been increased recovery of products from crude. A few years ago it would have required 5,000,000 instead of 2,500,000 bbls. of crude to produce the amount of gasoline now consumed daily. In my opinion, increased gasoline recovery in refineries, attained by the investment of private capital, has accomplished more than all other conservation measures combined.

Marketing

In the marketing division of the industry we have a condition of overdevelopment and demoralization. Prices (as is sometimes assumed) are not made by agreement; neither are they made by any rule of reason. When a distributor posts a lower price others are compelled to follow this price closely if they wish to retain their business. We have constantly the picture of successive reductions — warring marketers determined that no one shall undersell them. It is a veritable dance of death, ending only with the exhaustion of the participants.

Too often price wars are precipitated by the desire of some one to regain or to wrest from those who have it a larger share of the market. In some cases there is an apparent purpose to annihilate by ruinous prices marketers whose bad practices or enterprise have taken a large share of the business from units that formerly controlled it. I am referring to the kind of unfair competition already prohibited by law. I believe, indeed, that if existing laws were enforced most of the destructive marketing practices would be eliminated. This would be hastened by less greed and more restraint and co-operation among those engaged in the marketing of petroleum products. The sale by major companies of unbranded gasoline to price cutters is an evil the correction of which is entirely within the control of the industry. May I say here that so far as the East Coast is concerned hot-oil gasoline has, in my opinion, been largely a smoke screen to cover up the real causes of market demoralization.

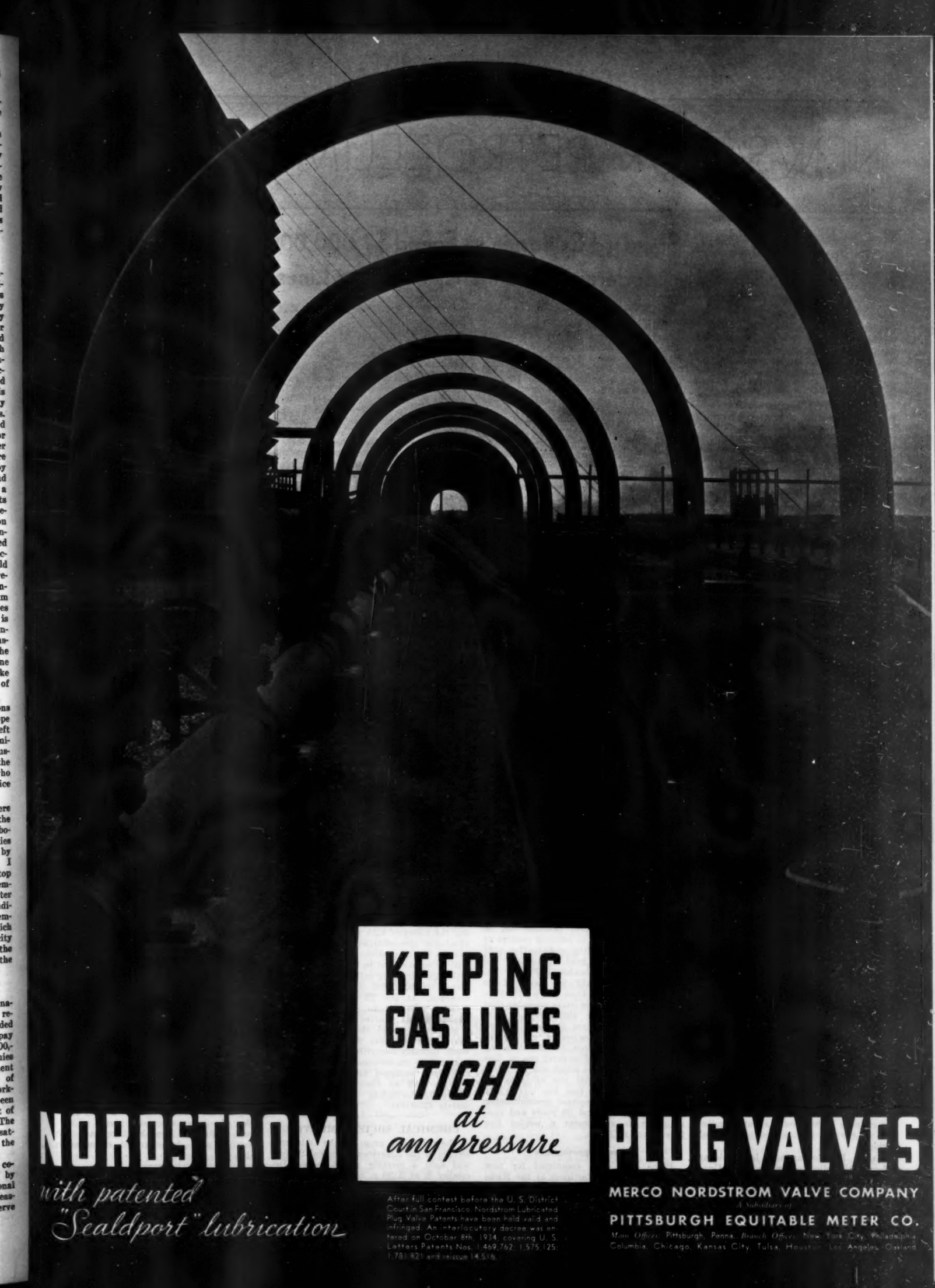
The overbuilding of service stations does not seem to come within the scope of legislation. Its correction must be left to economic law which ultimately eliminates unnecessary units in every industry. Meanwhile it is the owners of the stations rather than the consumer who suffer the results of too many service stations.

I have heard the criticism that there is great waste in the industry in the construction and maintenance of elaborate filling stations. Most companies have undoubtedly sustained losses by erecting unprofitable filling stations. I question whether this is the time to stop construction of any kind. Men were employed in serving filling stations after they were built. Under existing conditions is it not better to have men employed in building filling stations which may not all be used to their capacity than, possibly, to have more men on the relief rolls or doing "made work" for the Government?

Additional Employment

To co-operate in bringing about national recovery our companies have reduced hours of labor and have added approximately 5,000 people to their pay rolls at an additional cost of over $6,000,000 per annum. The Sinclair companies entered into a national labor agreement with the International Association of Oil Field, Gas Well and Refinery Workers of America. The agreement has been approved by William Green, president of the American Federation of Labor. The agreement is operating in a manner satisfactory to both the employer and the employed.

As a whole the oil industry has co-operated in a degree not exceeded by any other industry in assisting national recovery. This, I think, is a fair measure of its ability and its desire to serve the nation.



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NEWS FOR PETROLEUM REFINERS

New Federal Suit Divides California Oil Marketers

LOS ANGELES, Calif., Nov. 26.—In an effort to remedy a situation that threatens to precipitate a gasoline price war and at the same time to force compliance with contractual obligations contained in the California marketing agreement a group of California marketers has filed suit in the Court of the United States, District Judge James in Los Angeles, petitioning the issuance of an injunction to prevent a large number of signatures to the agreement from continuing the practice of what is alleged to be a violation of the NRA code and California marketing agreement. The plaintiffs in this action include Standard, Union, Shell, Bachmann Petroleum, General Petroleum, San Fernando Refining, Norwalk Oil, Rice Ranch, Socal Oil and the Triangle Oil & Refining Co. Defendants are Associated, Bush Oil, Caminol, Gilmore, Hancock, MacMillan, Monarch, Richfield, Rio Grande, Signal, Seaside and the Texas Co.

Secretary Ickes has likewise been made a defendant in his capacity as petroleum administrator. The complaint alleges that the defendants have been manufacturing gasoline from overproduced crude oil and that they have failed to confirm with production and refinery schedules issued by the petroleum administrator. The suit will come up for trial on December 3.

ENGINEERING GROUP TO MEET

Tractor, agricultural and industrial-power specialists of the United States will meet in Chicago on December 5 and 6 to participate in a program arranged by the Tractor and Industrial-Power Equipment Committee of the Society of Automotive Engineers. The widespread revival of interest in the power engineering of farm equipment and in internal-combustion engine applications for industrial purposes is indicated by the fact that this is the second general meeting sponsored by the committee to be held during 1934.

SYMPOSIUM ON DISTILLATION

The symposium on distillation to be held at the Massachusetts Institute of Technology during the Christmas holidays by the Division of Industrial and Engineering Chemistry of the American Chemical Society is expected to attract a large number of prominent chemical engineers interested in this subject. A well-balanced series of papers on distillation with ample time for adequate round-table discussion is being planned. Starting Friday afternoon, December 28, the symposium will continue into the evening with informal gatherings. Papers will again be resumed the following morning and the meeting will end with another social period at noon. Those planning to attend will aid the committee on arrangements by notifying F. W. Adams, Massachusetts Institute of Technology, Cambridge, Mass.

NEARING COMPLETION

McClanahan Refineries, Inc., of St. Louis, Mich., is nearing completion of a new refinery at St. Louis, about 10 miles west of the big Porter Pool of Central Michigan.

Walter L. McClanahan is president and operating director, while E. G. Guy, formerly of White Falls, Tex., of the Old Dutch refinery, Muskegon, Mich., and the Roosevelt refinery, Mount Pleasant, Mich., is chief engineer in charge of construction and operations.

Standard California to Spend $7,000,000 Modernizing Refineries and Pipe Lines

By L. P. STOCKMAN

The Standard Oil Co. of California, in order to increase operating efficiency and in anticipation of future requirements, has started a general expansion and modernization program which will require the expenditure of approximately $7,000,000 and take six months for completion. The company's initial move was the starting of a new 12½-inch pipe line from Rio Bravo in Kern County to tidewater at Estero Bay. This new line, which will cost approximately $4,00,000, will be the third installation to tidewater at Estero and is so designed that the company will be able to move either light or heavy crude oil from San Joaquin Valley fields to refining centers at a minimum cost. Several new pump stations will be constructed along the right of way and present plans call for the erection of approximately 900,000 bbls. of steel tankage at Rio Bravo and a similar amount at Estero. The Standard has one submarine loading line at Estero but this will be augmented by another upon completion of the new line which is already well under way. The Standard's other two pipe lines which terminate at Estero were laid to provide an outlet for crude and natural gasoline produced at Kettleman Hills.

In order to take care of additional tanker movements which will result from completion of the new pipe line to tidewater, the Standard has started expanding its wharfing facilities at both its Richmond refinery in the north and at El Segundo refinery in the south. Proposed improvements include wharf repairs and extension of existing facilities, increased crude oil receiving facilities and the necessary supplementary equipment. At Richmond, the Standard will extend its wharf 720 feet in order to provide berthing space for one additional tanker so that two tankers can be docked simultaneously. The significance of this expansion is quite evident in view of the fact that the company will utilize its fleet of tankers to move crude oil to its refineries instead of relying upon pipe line transportation as has been the custom in the past.

Blend Natural

A very careful check indicates that crude oil and natural gasoline can be moved from Estero to refining centers at less cost by using the combination pipe line and tanker haul. Although the Standard has not announced what future disposition will be made of its 8½-inch pipe line from Kern River to Richmond, it appears quite probable that this will be either abandoned or converted into a natural gas transmission line. The latter conjecture appears to have some foundation as the company has vast reserves of natural gas in San Joaquin Valley fields which can be moved north for commercial use at little expense as this old line has practically been replaced by constant reconditioning work during the past 10 years and consequently is at present a welded line from start to finish.

Other Improvements

Plans have been completed for new crude oil handling facilities at the Richmond refinery adequate to move 75,000 bbls. of crude oil per day from tankers to tank farm. Part of this crude oil is now being delivered to the Richmond refinery by the valley pipe line system. The new additions at Richmond, in addition to the extension of the existing wharf, will include a large crude oil delivery pipe line to the tank farm, a booster station and a discharge pipe line system to refinery storage. The pipe lines will be as large as 20 inches in diameter in order to permit economical pumping rates of approximately 10,000 bbls. per hour in an emergency. The program covering the rebuilding of the wharf superstructure, laying the necessary pipe lines and installing other supplementary equipment at Richmond is already under way by Healy-Tibbets and will cost around $500,000. Auxiliary additions and facilities to accommodate the new plants to existing equipment will be done by Standard employes.

New Distillation Unit

In addition to the expansion program under way in the field, pipe line and transportation departments, the Standard has started erection of a combination atmospheric and vacuum distillation unit, which when completed will be capable of feeding 21,000 bbls. per day of selected crude oil and producing a total of 11 closely fractionated streams varying from a light gasoline to a heavy lubricating distillate. In addition, the unit will produce asphalt bottoms and a road oil conforming with the stringent specifications. A special rerun unit for refining lubricating oils is also under way and this unit, which will have a feed capacity of 3,500 bbls. per day, will produce four streams of high quality lubricating distillate. Both units have been designed by the M. W. Kellogg Co. of New York and the installation cost will approximate $1,000,000.

New Solvent Plant

Supplementing the improvements already started in new and improved refining units, the Fluor Corp. has started construction of a selective solvent plant at the Richmond refinery for treating lubricating oil. This plant will have a rated capacity of 2,200 bbls. per day based on finished oils. In addition to the treating facilities, the plant will contain a complete recovery system for minimizing the losses of high priced solvents and eliminate concentration of explosive vapors as far as possible. Part of this plant will be constructed by company employes although contracts calling for an expenditure of $250,000 have already been awarded. At the El Segundo refinery, located adjacent to Los Angeles, the Standard has started modernizing certain facilities and should complete the job within the next 60 days. This new work includes electrification of pumping equipment, improvements in distillation units and enlarged facilities for receiving, as well as discharging, crude oil. These improvements will cost approximately $250,000.

CHEMICAL SOCIETY MEETING

The petroleum group of the Oklahoma section of the American Chemical Society will hold a meeting at Okmulgee, December 8, at 2:30 p. m. Papers will be presented dealing with analytical procedure in oil chemistry. The meeting will be followed by a dinner at the Hotel Beauclaire.

Gain in French Refining Cuts Gasoline Imports

Decreased imports of high-grade gasoline into France during the current year reflects the progress being made by the French petroleum refining industry, according to a report from Davis B. Lewis, American consulate general, Paris, made public by the commerce department.

Total French receipts of this petroleum item in the first eight months of 1934 declined to 254,220,354 gallons against 409,348,507 gallons in the corresponding period of last year. The decline in French imports of ordinary gasoline in the 1934 period was not so outstanding, total receipts amounting to 24,901,853 gallons against 27,248,396 in the first eight months of 1933. The United States was the chief source of French imports of high-grade gasoline while the Soviet Union accounted for the largest volume of ordinary gasoline, the report states.

Imports of crude petroleum into France in the January-August period of 1934 increased to 2,792,009 metric tons compared with 1,635,218 metric tons in the corresponding period of 1933. Of the 1934 crude imports, the United States ranked as the leading source, accounting for 35 per cent. Venezuela, Persia, Peru and the Dutch East Indies followed in the order named, it was stated.

New Canadian Refinery to Process Texas Crude Oil

CHICAGO, Nov. 24.—Construction work on a new refinery in Canada is getting under way. The plant is being built by Comet Oil Refineries, Ltd., at Point-aux-Trembles, on the St. Lawrence River near Montreal.

A Dubbs cracking unit of about 2,000 bbls. a day charging capacity is a feature of the refinery, which will include a pipe still distillation unit which is expected to run about 3,000 bbls. of crude a day.

The Comet company is affiliated with the Emerald Petroleum Corp. of Dallas, Tex., which has considerable production in the Gulf Coast fields of Texas and Louisiana. This oil will supply the new refinery, being transported by tankers.

William J. McCormack is president of Emerald and O. S. Knisely is vice president and general manager. Mr. Knisely is president of Comet and Mr. McCormack is vice president.

Contract has been awarded to the George A. Fuller Construction Co. of Canada for construction of the refinery.

SOLVENT REFINING EXPLAINED

R. E. Hayiett, manager of production of the Union Oil Co. of California, spoke in the Hogg Memorial Auditorium, University of Texas, November 17, on "Recent Advances in the Refining of Lubricants Through Solvent Extraction." The Union Oil Co. uses a triple phase process in which deasphalting and dewaxing are carried out with liquid propane, followed by removal of "carbogenes" through the Edeleanu extraction by liquid sulphur dioxide and a finishing treatment with a benzene-sulphur dioxide mixture. The lecture was augmented by illustrations of the Oleum, Calif., refinery and by samples of oils at successive stages of solvent refining. Deasphaltizing and dewaxing were demonstrated experimentally.

REFINERY APPEAL BOARD

The refinery appeal board will meet in Washington starting December 4 to consider requests for changes in gasoline production allocations.

NATURAL GASOLINE MANUFACTURE

Cole Committee Studies Panhandle Gas Problem

Further investigation of the gas wastage in the Texas Panhandle began Wednesday, November 21, when the Cole Committee turned its attention to that area. Testimonies were heard from representatives of the gas companies, land owners and natural gasoline plant operators.

Further testimonies in the Panhandle gas conservation probe began Wednesday, November 21, in Dallas. S. A. L. Morgan and Charles H. Keffer spoke for the gas companies operating in the field. In reply to Stanley Marsh, interested in a stripping plant in the Panhandle, Morgan claimed that the purpose of the gasoline plant operators in practicing the gas waste is to threaten destruction of the field and to force the large gas companies to buy out the strippers. Morgan based his statement on actions of operators in the field who stated that they would not be interested in ratable purchase of their residue gas by the pipe line companies, because that would not be enough for them. He also quoted another as saying that the "gas companies have millions invested in their pipe lines and before they will let this be destroyed they will come in and settle with us."

Both Morgan and Keffer declared their willingness to see the strippers allowed to operate if the residue gas was put to some beneficial purpose and not wasted into the air. Carbon black was listed as such a purpose, though both pointed out that the gas companies, owning 61 per cent of the gas in place and taking out much less than half of the gas being used for heat, fuel and carbon black manufacture, would under this scheme be losing gas to others.

$250,000,000 Investment Detailed

Morgan detailed the investments of $250,000,000 in facilities for providing a market for Panhandle gas during seven depression years and said that it was logical to expect that others would do the same, with a beneficial market for all Panhandle gas to be expected shortly. Chase defended the prices paid producers by the gas companies, which run from 2 to 3½ cents per 1,000 feet. The strippers, he said, pay producers about 1⅔ mills per 1,000 feet, while the payment to royalty owners have to be expressed in ten-thousandths of a cent per 1,000 feet.

Keffer disclosed that unless the stripping operations are stopped the gas companies may be forced into similar operations to save what they can of their properties, and said that under those conditions the life of the Panhandle gas field,

(Continued on Page 45)

MICHIGAN CITIES CONTRACT

MUSKEGON, Mich., Nov. 26.—Michigan Cities Natural Gas Co., of Mount Pleasant, has contracted to purchase all of the natural gas produced by the Youmans-Burke Oil & Gas Co. in its wells in Sherman Township, Isabella County, where two producers were completed several months ago as a mile north extension of the Broomfield Township Pool.

The two wells, one on the W. L. Chaffee lease in Section 31 and the other on the William LaFever lease in Section 32, were credited with a combined open flow capacity of about 9,000,000 feet a day when completed.

Pipe lines already have been constructed from the wells to the Michigan Cities' line in Broomfield Township and delivery of gas started.

Natural Gasoline Association Meetings in California Feature Technical Papers

LOS ANGELES, Calif., Nov. 26.—A large attendance, excellent technical papers, and diversified entertainment all combined to make the one-day fall meeting of the California Natural Gasoline Association at the Los Angeles Biltmore Hotel November 1 an unprecedented success. That the California natural gasoline industry approved of President Eggleston's reinauguration of these annual gatherings was apparent when 200 registered for the opening session.

Arranged by Douglas Balthis and his program committee, and presided over by W. W. Robinson, Jr., the morning session began with a review by P. S. Magruder, chairman of the C.N.G.A. technical committee, of the history of the association's committee work and a discussion of the present activities of the 54 members making up the five committees engaged in co-operative studies. Following Mr. Magruder, the chairman of the various committees gave short reports on their studies. R. R. Crippen, W. C. Dayhuff, H. J. Multer, C. D. Gard and P. W. Hill created widespread interest with their remarks on such subjects as improvements in gasoline testing, tank gauging, gas deviations from Boyle's law, testing lean absorption oil, latest improvements in the charcoal test, and developments in correct gas measuring practice. T. L. Taggart, C.N.G.A. vice president, closed the morning session with interesting statistics on membership and invited liquefied petroleum gas and refinery vapor recovery engineers to avail themselves of C.N.G.A. activities through active membership.

In the afternoon session, presided over by P. W. Hill, a group of 350 heard Dr. W. N. Lacey, professor of chemical engineering at the California Institute of Technology, and Dr. B. H. Sage, Cal-tech research engineer, jointly deliver a paper on "Properties of Propane." Based on the results of experiments made for the A.P.I., Doctors Lacey and Sage revealed the latest information on propane. The paper appealed strongly to practical men and engineers alike because it suggested methods for actually applying the new propane data to plant problems. Following this, H. N. Wade read a paper on the "Practical Aspects of the Papers by Doctors Lacey and Sage." E. R. Cox concluded the program with a paper summarizing a study of the "Physical Constant of Propane." The excellent nature of all three papers provoked a period of discussion which, participated in by E. G. Ragatz and others, lasted until the conclusion of the session.

December Meeting

The latest developments in the manufacture of synthetic rubber, how to get the most mileage out of auto tires, and a variety of other topics of popular interest regarding rubber and its uses will be discussed by H. M. Stilley, manager of the quality control department of the Los Angeles branch of the Firestone Tire & Rubber Co. at the December meeting of the California Natural Gasoline Association.

A principal source of raw material used in the manufacture of the new synthetic rubber Duprene, as well as a large user of rubber, the petroleum industry is vitally interested in the advancements in rubber processing. Mr. Stilley plans to explain not only the many interesting uses for Duprene, but also the latest improvements in tire manufacture. Starting with the growing of rubber, he intends to reveal how the raw rubber is prepared; the coagulation, sheeting and bailing processes; and the final stage of rubber application to tire manufacture. He will discuss the manufacture of tires for racing automobiles, as well as those for trucks and passenger cars and will consider the most effective air pressures to carry and how to get the most mileage. The talk will be supplemented by motion pictures of the Firestone exhibit at the Century of Progress exposition.

On the same program, C. D. Gard, gas engineer for the Union Oil Co., will describe the Bassler meter for the accurate measurement of large volumes of gasoline or oil. Using information based on practical field experience with the Bassler meter, Mr. Gard will discuss its calibration, operation, and maintenance. Because of the possibility of improving vastly over the old methods of gauging natural gasoline shipments, the meter is rapidly creating wide attention. While new to the natural gasoline industry, it is in use all over the world for heavy oil measurement. In addition to the Union Oil Co.'s work, the Texas Co. has conducted a similar investigation at Signal Hill. T. R. Beauchamp, general plant foreman of the Texas Co. gasoline division, will participate in the discussion with interesting data on their experiences. Mr. Bassler, inventor of the meter, will also be on hand for the discussion.

The rapid expansion of California oil operations attracted his attention and soon found him in gas engineering work at the Union Oil Co.'s experimental absorption plant at Brea, Calif. In the next few years he successively occupied the posts of plant supervisor and gas engineer, both of which gave him a wide knowledge of natural gas and gasoline, and absorption plant operation. In 1928 Mr. Gard took up the post of plant and laboratory supervisor for all of the Union Oil Co.'s gas operations.

As one of the founder members of the California Natural Gasoline Association, Mr. Gard is well known, and as chairman of the charcoal test committee and a member of the technical committee he has participated actively in C.N.G.A. activities for many years.

Royalite May Build New Plant in Turner Valley

CALGARY, Alberta, Nov. 24.—It is expected that Royalite Oil Co., the major subsidiary of Imperial Oil, Ltd., in the Turner Valley Field, will shortly undertake construction of a second gasoline absorption plant to serve the southern portion of the field. The first Royalite gasoline absorption plant, serving the central field, started operations in May, 1933; and a few weeks ago a second plant, constructed by Gas & Oil Products, Ltd., was completed in Section 4-19-2w5, and is now operating on wet gas from independent producers. Royalite Oil Co. in recent months has extended its holdings in the older portions of South Turner Valley, its acquisitions including deep lime rights of the Home, Sterling Pacific, Commonwealth, Alberta Pacific Consolidated, Wellington and other companies. It is not likely, however, that construction will be commenced till next spring.

Tender New Procedure for Lean Absorption Oil Tests

Filling a long felt need for an exhaustive laboratory manual on the testing of absorption oil, the California Natural Gasoline Association announces the publication of Bulletin No. TS-343, Tentative Standard Procedure for Testing Lean Absorption Oil. The product of two years of intensive study by the C.N.G.A. committee on absorption oil testing, under the chairmanship of H. J. Multer, of the Union Oil Co., it is expected that the first edition of the publication will be quickly exhausted.

Where formerly the essential plant tests on absorption oil were limited to gravity and simple distillation, the present day complexity of natural gasoline and vapor recovery gasoline manufacture has imposed specific test requirements on the chemist which are far more precise. Absorption calculations, lean oil reclamation, better still efficiencies, improved heat exchange, and greater plant capacities have all contributed to create the necessity for a treatise such as the C.N.G.A. has prepared.

Starting with an introductory section describing the scope and limitations of the work, the 72-page bulletin specifically takes up such tests as: A.P.I. gravity, Engler and Hempel distillations, vapor pressure, molecular weight, viscosity, gum content, water and sediment, acid and alkali shrinkage, and demulsibility.

Arranged in a form for quick reference, the test procedures are complete and well supplemented with remarks to assist in the interpretation of results. Essential equipment specifications are illustrated. Of particular interest is the table of gum contents for use in estimating when an oil should be put through the reclamation still.

Copies of Bulletin No. 343 are available at 25 cents each, postpaid, through the C.N.G.A. secretary, 1217 Associated Realty Building, Los Angeles, Calif.

NEARING CAPACITY

MUSKEGON, Mich., Nov. 26.—With the completion of 2 miles of 6-inch pipe lines now being laid in Greendale Township, Midland County, the O. H. Grimes casinghead gasoline plant in Central Michigan is expected to be in operation at capacity soon.

Additional gathering lines now being laid will complete a 5-mile loop in the heart of the old Mount Pleasant Field where the plant will gather about 2,200,000 feet of casinghead gas daily from which 2,500 to 2,600 gallons of gasoline will be extracted daily.

Eight 80-horsepower engines will pump the wet gas from Pure Oil Co. and other wells. Dry gas is returned to the leases where the Pure company has been experimenting with it to repressure its producers with some success.

The plant was built last spring under the direction of R. H. Chisholm, plant manager, who is to be transferred to Tulsa. He will be succeeded in this capacity by C. A. Gibson, formerly with the Empire Oil & Gas Co. in Oklahoma, who recently arrived here to take charge of the plant erected by Mr. Grimes, a Tulsa operator.

HERCULES DOWN TEMPORARILY

The Hercules gasoline plant, located near Kilgore in the East Texas Field, suffered an explosion November 26 that will hold the plant idle for about 10 days. Five operators were burned. The plant has a rated capacity of 10,000 gallons daily and has been operating near capacity.

ANOTHER GREAT ADVANCE IN

OVER 500 miles of pipe line has been Lindewelded with the new Multi-Flame Lindewelding Head since the first of the year—and every mile is operating successfully today.

What It Is—And Does

Essentially, Multi-Flame Lindewelding involves three factors—the Multi-Flame Lindewelding Head; a special flame adjustment (employing a backhand technique exclusively); and a special welding rod. The Multi-Flame Lindewelding Head consists of a special chromium plated tip that has three flames: the main welding flame, and two auxiliary smaller flames located about 1¼-in. from the end of the tip. These two smaller flames preheat both edges of the vee ahead of the point of welding. An excess acetylene flame carburizes the base metal surfaces just ahead of the advancing puddle. The special welding rod perfected for Multi-Flame Lindewelding insures the highest physical properties in the weld metal. The combination of these three factors has resulted in greater speed and economy in the production of pipe welds over previous methods.

Used By Men Who Know

Over one hundred experienced pipe line operators have already used the new Multi-Flame Lindewelding Head on hundreds of miles of pipe line. The strongest proof of their unqualified acceptance is found conclusively in the fact that the new Multi-Flame Lindewelding Head, which had its inception in the mid-continent field, has entirely superseded the single flame for all Lindewelding of pipe lines in that territory.

Proved Under Actual Conditions

In the heart of the mid-continent field, under the most adverse and grueling operating conditions, Multi-Flame Lindewelding literally went through a baptism of fire and emerged a perfected and accomplished technique. Here, this modern technique was tested, improved and rigidly retested with but one objective—to fill the industry's demand and need for more speed and economy in consistently producing good welds.

Saves Time, Rods and Gases

The enthusiastic acceptance of Multi-Flame Lindewelding by pipe line companies and contractors is due to its outstandingly greater speed, economy and ease of operation. It meets all field welding conditions, any size pipe, and wall thickness, jammed joints, excessive spacing, and high-low line-ups. Yet, important as these advantages are, the dominant fact is that with *the new Multi-Flame Lindewelding Head and the proper technique,* the average pipe line operator can effect *savings ranging from 15 to 40 per cent in welding time, rods and gases.*

Linde Process Service Cooperates

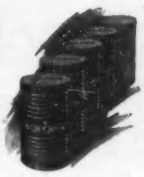
There need be no hesitancy in adopting Multi-Flame Lindewelding on your pipe lines. If you use Linde Oxygen, Linde Process Service Operators will help you organize your welding operations to secure the greater speed, efficiency and economy now possible with Multi-Flame Lindewelding. The development of Multi-Flame Lindewelding has conformed with the non-compromising standards set by Linde engineers since oxy-acetylene welding was first adopted for pipe lines. Standards that automatically require the work of development to be carried on in both the laboratory *and under actual operating conditions in the field.*

You can order everything for Pipe Line Welding from Linde

LINDE OXYGEN... available in any amount from plants and warehouse stocks in all industrial centers.

PREST-O-LITE ACETYLENE... ready to use—the standard dissolved acetylene for well over a quarter of a century.

OXWELD APPARATUS AND SUPPLIES... Oxweld offers the maximum value in oxy-acetylene equipment. Blowpipes, regulators, acetylene generators, welding rods, and supplies—are available for every welding and cutting operation. Complete stocks and service stations are located in all principal cities.



UNION CARBIDE... sold in the familiar Blue and Grey drum from over 250 warehouse stocks.

PIPE LINE CONSTRUCTION

Contact the Nearest Sales Office

The nearest Linde Sales Office will be glad to furnish complete information on Multi-Flame Lindewelding and the cooperation extended by Linde Process Service. Offices are located at Atlanta — Baltimore, Birmingham, Boston, Buffalo, Butte—Chicago, Cleveland—Dallas, Denver, Detroit—El Paso—Houston—Indianapolis—Kansas City—Los Angeles—Memphis, Milwaukee, Minneapolis—New Orleans, New York—Philadelphia, Phoenix, Pittsburgh, Portland, Ore.—St. Louis, Salt Lake City, San Francisco, Seattle, Spokane and Tulsa.

Everything for oxy-acetylene welding and cutting—including Linde Oxygen, Prest-O-Lite Acetylene, Union Carbide and Oxweld Apparatus and Supplies—is available from Linde through producing plants and warehouse stocks in all industrial centers.

PRODUCT OF A UNIT OF UCC UNION CARBIDE AND CARBON CORPORATION

The Linde Air Products Company

Unit of Union Carbide and Carbon Corporation

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In Canada: Dominion Oxygen Co. of Canada, Ltd.

PERFORMANCE TELLS THE STORY

FIFTY Per Cent Increase in Production was possible with Multi-Flame Lindewelding on a line of 30 miles of 6-in. pipe with 5/16-in. wall, and 24 miles of 8-in. pipe with 1/4-in. wall. Multi-Flame Lindewelding was not available until after 14 miles of the 8-in. line had been welded. The remaining 10 miles of the 8-in. line was completed in three more days with Multi-Flame Lindewelding. This resulted in an average of 304.6 welds per day for six men which represented 50 per cent increase in production with no increase in personnel. Test welds were cut from the lines and given the reverse bend test. No welds failed in this test. This marked increase in production made the use of Multi-Flame Lindewelding on the longer 6-in. section a matter of course. The pipe was in 40-ft. lengths with 37½ deg. bevel. On this part of the line the six men averaged nine welds each per hr., or an average altogether of 4 miles per day in spite of sand and long moves. The line tested with 100-lb. air pressure proved absolutely tight.

Cross River in One Day. Another 8-in. line gives some further comparative data. The pipe lengths averaged 18 ft. and the weight of the pipe was 24 lb. per foot. The pipe in this case was from an old line and had been reclaimed by means of a pipe-cutting machine. Six welding operators were employed, four using the ordinary single flame blowpipe while two used the new Multi-Flame Lindewelding Head. The latter two attained a speed of 50 welds each per day, the former making but 40 welds each, or an increase of 25 per cent for Multi-Flame Lindewelding. One interesting section of this particular job was a 1500 ft. river crossing. By using special construction methods and Multi-Flame Lindewelding, the crossing was made in one day, a notable record.

Record of 89 Welds per Man Day. A prominent contractor in the mid-continent field has installed a number of lines with Multi-Flame Lindewelding. In one instance 30 miles of new 12-in. pipe were laid in 11 days. Considerable delay was experienced due to the nature of the country and river detours, so that several days were not worked full time. The six men on the firing line were averaging 30 or more welds a day even with these handicaps, and one day averaged 36.5. On a stretch of 8-in. pipe the same men averaged as high as 48 welds each per day, and on 6-in. pipe a record of 89 welds per man day was attained. Both 6-in. pipe and 8-in. pipe were 13/32-in. wall thickness, second-hand and beveled by a blowpipe cut. None of these welders had had much previous experience with Multi-Flame Lindewelding.

Saves 25 Per Cent in Welding Time. Still another contractor has been doing considerable work on 10-in. pipe of 13/32-in. wall thickness. On a 42-mile line laying new pipe in 40-ft. sections an average of approximately 38 welds per man day was obtained. There were four men on the firing line, each working on a string of five 40-ft. sections. The record made on this line with Multi-Flame Lindewelding represented a saving of 25 per cent in welding time over the older single flame tip.

Summary of Recent Research Work Upon Organic Content of Sediments

By PARKER D. TRASK[1] and HARALD E. HAMMAR[2]

(Continued from Issue of November 22)

California

In many formations samples were obtained from several different areas, and it is possible to indicate the general variation in organic content. The lateral variation in the Pliocene and Miocene formations in California is shown in Figure 1. The data given in this and in succeeding figures are based on the samples analyzed, not on the entire thickness of strata present. Some parts of the formations are represented by few or no samples, and also it is not possible to correlate definitely all parts of the formations. Consequently, the results should be considered as indicating only the relative order of magnitude. As the samples from California are apt to be more shaly than the average for the formations they represent, the actual organic content of the California sediments may be slightly less than indicated in the figure.

Pliocene: In the lower part of the Pliocene, on the west side of the south end of the San Joaquin Valley, the organic content of the shales decreases from about 3 per cent at Lost Hills to 1.5 per cent west of McKittrick, 30 miles to the south—presumably more or less in the direction of the old shore line. The organic content of the sediments in the lower part of the Pliocene in the Santa Maria oil field, 50 miles west of McKittrick and probably in another basin of deposition, ranges chiefly between 2 and 3 per cent. In the Ventura oil field, 75 miles southeast of Santa Maria, in still another basin of deposition, the organic content of some 7,000 feet in the lower, but not the lowest, part of the Pliocene ranges between 2 and 2.5 per cent.

In the Los Angeles basin the Pliocene consists of two formations: the Pico, above, and the Repetto, below. Most of the oil is associated with the middle and lower parts of the Repetto. In the line of oil fields extending southeastward from Santa Fe Springs, the organic content of the Pico formation (including the "transition zone," at its base) is between 1 and 2 per cent; but in the southwest part of the basin, 15 miles to the west at Lawndale, and at Venice, it is 2.5 to 3 per cent. The lower part of the Pico, in general, is richer than the upper part throughout most of the Los Angeles basin. The "transition zone" has about the same organic content as the overlying lower part of the Pico.

The organic content of the upper part of the Repetto formation ranges from about 1.5 per cent in the northeast part of the Los Angeles basin to 2.5 per cent in the southeast part. The entire lower part of the Repetto contains 1.5 per cent organic matter on the northeast side of the basin; but on the west and south sides of the basin, the upper half of the lower part contains 3 per cent organic matter, and the lower half contains from 4 to 6 per cent—the richest area being in the vicinity of the Huntington Beach oil field.

Miocene: The Miocene sediments vary considerably in lithology in different parts of the state, and it is difficult to choose satisfactory horizons for dividing the Miocene into parts. In this report the base of a zone characterized by abundant specimens of the genus Valvulineria has been taken arbitrarily as a horizon for separating the Miocene into two divisions—which, for convenience, will be designated as the upper and lower parts of the Miocene. The writers have no intention of implying that this zone characterized by Valvulineria should be used in preference to any other zone for sub-dividing the Miocene. It simply forms a practicable horizon for separating the Miocene samples into two classes.

In three wells that were studied, sandstones beneath the shale zones in the Miocene have been correlated with the Vaqueros formation (lower Miocene), and the organic content of the sediments associated with these lower-Miocene sandstones have not been considered in the preparation of the average organic content of the upper and lower parts of the Miocene shown in Figure 1.

The sediments in the upper part of the Miocene range in organic content from 1 per cent in some beds correlated with the Santa Margarita formation near Bakersfield to 13 per cent in the nodular shale at the base of the Miocene section in the Venice oil field in the Los Angeles basin. On the west side of the southern part of the San Joaquin Valley the average organic content of the sediments in the upper part of the Miocene ranges between 4 and 6 per cent—the quantity increasing westward, presumably away from the old shore line. The richest part of these strata is the zone characterized by Valvulineria which has an organic content of 5 to 6 per cent in the McKittrick-Belridge district. In fact, this zone is one of the richest parts of the Miocene in California; for miles south of McKittrick, it contains in the Elwood field, on the coast 65 miles south of McKittrick, it contains more than 7 per cent organic matter, and at Point Concepcion (30 miles west of Elwood) it possesses about 6 per cent. The Miocene sediments above the zone characterized by Valvulineria average about 4 per cent organic matter in most of the areas examined, viz., in the Santa Maria field, the Elwood field, the west side of the San Joaquin Valley, and the Los Angelees basin. In the Los Angeles basin the sediments in the upper part of the Miocene contain about 3 per cent organic matter on the northeast side of the basin, and 4 to 5 per cent on the south and west sides. The nodular shale at the base of the Miocene sediments in the Venice field contains about 13 per cent organic matter.

The sediments in the lower part of the Miocene contain from 1 to 5 per cent organic matter. In the Edison area, southeast of Bakersfield on the east side of the San Joaquin Valley, the organic content of this sequence of sediments is 1 to 2 per cent; across the valley to the west it is about 1 per cent at Lost Hills; but near McKittrick, near the foot of the mountains, it is 4 per cent. The richest area seems to be in the vicinity of Elwood on the coast 65 miles south of McKittrick, where the organic content is about 5 per cent. At Point Concepcion, 30 miles west of Elwood, the organic content is 3 per cent; at Santa Maria, 40 miles northwest of Elwood, it is less than 2 per cent; and at the Irvine well, 125 miles southeast of Elwood, it is about 2.5 per cent.

In the three wells from which samples from the sandy zones correlated with the Vaqueros formation were obtained, viz., at Point Concepcion, Santa Maria, and McKittrick, the organic content is of the order of magnitude of 1 to 2 per cent.

Older Formations: At McKittrick beds that may be the equivalent of the Kreyenhagen shale (Eocene and Oligocene ?) contain about 5 per cent organic matter, and underlying strata that are correlated with the Eocene contain from 1 to 3 per cent. The strata for some 2,000 feet beneath the Vaqueros formation in a well at Point Concepcion contain considerable shale; and, according to Kew[10], in part may be the marine equivalent of the Sespe formation. The organic content in this zone ranges mainly between 2 and 3 per cent. The underlying sediments are chiefly sandstone, presumably of Eocene age; and have an organic content of less than 1 per cent.

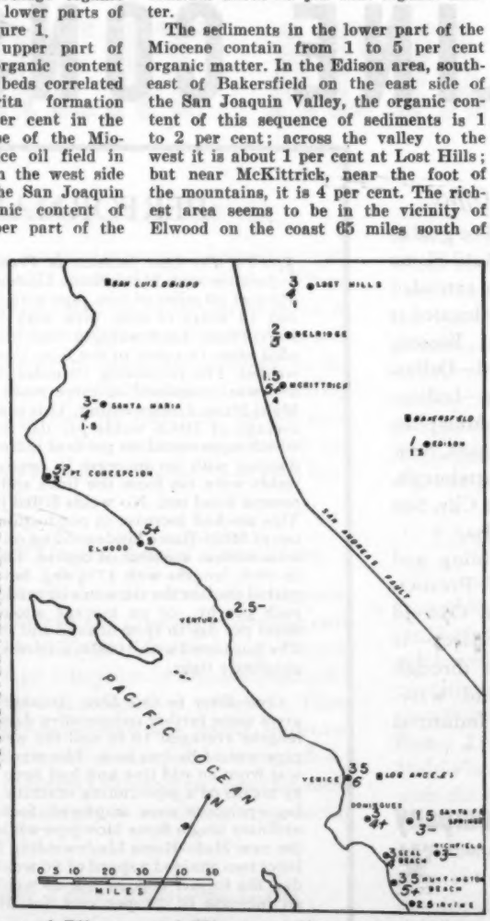
The organic content of 40,000 feet of lower and upper Cretaceous sediments in northern California, on the west side of the Sacramento Valley, varies but slightly from 1 per cent throughout this tremendous thickness of strata.

Rocky Mountain Area

Variations Between Formations: In the Rocky Mountain region samples were obtained from 50 areas scattered more or less uniformly over Wyoming and northern Colorado. Most of the samples come from the upper Cretaceous; but samples from older formations were obtained from two areas, one near the Salt Creek oil field in central Wyoming, and the other from the vicinity of Garland in northwest Wyoming. Both outcrop and well samples were collected, and the distribution of the areas studied is shown in Figure 2.

In Wyoming and northern Colorado the upper Cretaceous formations are all comparatively rich in organic matter. Except for parts of the strata underlying the Mowry shale, the upper Cretaceous sediments nearly everywhere contain more than 2 per cent organic matter, and in many areas contain more than 3 per cent. In general, the organic content in each formation increases more or less uniformly toward a central area, where it reaches a maximum. The location of this point of maximum concentration of organic matter differs in each formation (Figure 2). In general, an area east of the Front Range in northeastern Colorado was a locus of rich deposition. The maximum organic content of the Pierre shale, the Carlile shale, and of the beds regarded as equivalent of the Thermopolis shale is in this area. The maximum organic content of the Mowry shale is 200 miles to the north, near Lander; of the lower part of the Niobrara, near Casper, 80 miles east of the position of greatest organic content of the Mowry; and of the upper part of the Niobrara, west of Laramie, 100 miles south of the point of maximum organic content of the lower part of the Niobrara.

In order to illustrate more clearly the distribution of organic matter among these upper Cretaceous formations, contour lines are drawn in Figure 2 for each formation through places where the organic content is estimated to be 2.5 per cent. Arrows indicate the direction of increase in organic content. The sediments on the side of the lines, toward which the arrows point contain more than 2.5 per cent organic matter; and on the other side they contain less than 2.5 per cent. The location of the lines to some extent is arbitrary; as it is impossible to correlate definitely the formations over the entire region, and some areas are represented by few control points. The data upon which the lines are based, however, are remarkably consistent; and indicate that, in general, the



The straight large numbers indicate average organic content of Pliocene sediments obtained from the wells represented by dots; the inclined large numbers refer to the average organic content of Miocene samples above the base of a zone characterized by Valvulineria in these wells; and the straight small numbers represent the average organic content of the Miocene shale samples lying beneath the zone of Valvulineria and above sandstones more or less equivalent in age to the Vaqueros formation.

Fig. 1—Organic content of Pliocene and Miocene sediments in Southern California

[1]U. S. Geological Survey, Washington, D. C. Authors' title: "Organic Content of Sediments."

[2]Research associate, American Petroleum Institute, National Bureau of Standards, Washington, D. C.

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[10]W. S. W. Kew, personal communication.

organic content changes laterally in the formations in a progressive and fairly uniform way.

Like the position of maximum organic content, the location of this line of equal organic content is different in each formation. In the beds correlated with the upper part of the Pierre shale it forms an oval-shaped area in eastern Colorado, extending from Fort Collins in the north to Florence, which lies south of the area shown in Figure 2. The line for the lower part of the Pierre shale likewise forms a basin in Colorado, presumably for the most part south of the area shown in Figure 2. To the north, it trends northeastward from western Colorado to central Wyoming. The upper Niobrara is the richest of the Cretaceous formations; and the line of 2.5 per cent organic matter lies in the western part of Wyoming, 50 to 100 miles west of the position of the line for the other formations. In the lower part of the Niobrara the line trends in a southeasterly direction from west central Wyoming to northeast Colorado; but in sediments of about the same age as the Frontier formation and the Carlile shale, it trends in the opposite direction, viz., from Casper southwestward toward Rangely in northwest Colorado. In the Mowry formation the line forms a kidney-shaped area in central Wyoming, and in beds correlated with the Thermopolis shale it extends in a southeasterly direction across southern Wyoming and northeastern Colorado.

In all the formations that are considered the organic content decreases in the direction of the coast line. The shifting in position of the line of 2.5 per cent organic matter may possibly be related to movements of the shore. Of course, the coast line at the time the sediments were deposited does not necessarily parallel the line of 2.5 per cent organic matter; because the line in reality represents a depositional feature, such as comparatively deep or quiet water, where conditions were favorable for the deposition of organic matter. The oval-shaped areas for the Mowry shale and the lower and upper parts of the Pierre shale may represent depressions in the sea floor—somewhat analogous to, although presumably not so pronounced, as some of the depressions off the coast of southern California, which today favor the accumulation of organic matter.[11]

Individual Formations: Sediments of the Montana group, presumably equivalent in age to the upper part of the Pierre shale, have an organic content of 1 to 2 per cent over central and western Wyoming; but near Fort Collins, in northern Colorado east of Front Range, and in the Florence oil field 125 miles south of Fort Collins, the organic content is about 3 per cent. In the Fort Morgan area, 60 miles east of Fort Collins, the organic content is less than 2 per cent. The area of maximum organic content, therefore, lies in Colorado just east of the Front Range. The Pierre shale differs from the other Cretaceous formations in that it seems to have a lower carbon-nitrogen ratio.

Organic Content

Sediments of the Montana group equivalent to the lower part of the Pierre shale, in general, contain from 10 to 20 per cent more organic matter than the beds correlated with the upper part of the Pierre. Over most of Wyoming, and in northern Colorado, the organic content of the beds equivalent to the lower part of the Pierre shale is about 2 per cent. The organic content increases toward the east, and attains a maximum in the vicinity of Fort Collins—where it is nearly 4 per cent. From Fort Collins eastward it decreases to approximately 2 per cent in the Fort Morgan area, and southward it diminishes to about 3 per cent in the Florence area. In the vicinity of Cutbank, Montana, 300 miles northwest of the Wyoming area, the organic content of the lower part of the sediments of the Montana group is a little more than 1 per cent.

[11] P. D. Trask, "Sedimentation in the Channel Islands Region, California, Econ. Geol., 26, 39-40 (1931).

Beds correlated with the Niobrara formation, in general, contain between 2 and 3 per cent organic matter—the quantity increasing eastward. The richest area in the upper part of the Niobrara is near Laramie, Wyo., and of the lower part near Casper, 100 miles north of Laramie. Sediments in the upper part of the Colorado group in the Cut Bank area in northern Montana, and presumably in part equivalent in age to the Niobrara, have about the same organic content as the Niobrara sediments in Wyoming.

As only a few samples have been obtained from the Dakota sandstone of the Cloverly formation, it is impossible to present the distribution of organic matter in these sediments. The data that have been obtained, however, indicate that the organic content of the more shaly parts of these formations is of the order of magnitude of 1 per cent.

The organic content of all the formations beneath the Cretaceous is less than 1 per cent in the few wells that have been examined. In the vicinity of the Salt Creek field in central Wyoming, the Morrison and Sundance formations contain slightly less than 1 per cent organic matter; and the Chugwater and Embar formations, the Tensleep sandstone, the Amsden formation, the Madison limestone, and the Deadwood formation, possess less than 0.5 per cent organic matter. In the northwest part of the state near Garland the Carboniferous formations, viz., the Embar formation, the Tensleep sandstone, the Amsden formation, and the Madison limestone, likewise contain less than 0.5 per cent organic matter.

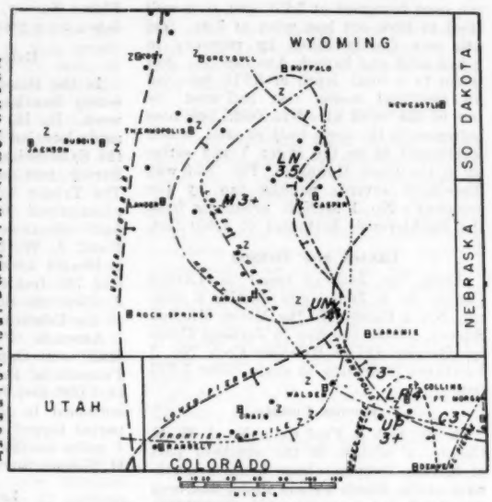
WYOMING
SO DAKOTA
NEBRASKA
UTAH
COLORADO
BUFFALO
NEWCASTLE
THERMOPOLIS
CASPER
ROCK SPRINGS
LARAMIE
WALDEN
BOULDER
LN
M3+
UN
T3-
LP
UP
C3+
Letters indicate position of maximum organic content of formations. UP refers to upper part of Pierre shale; LP to lower part of Pierre; UN to upper part of Niobrara formation; LN to lower part of Niobrara; C to Carlile shale or Frontier formation; M to Mowry shale or formations regarded as of equivalent age; and T to Thermopolis shale or to the lower part of the Graneros shale. The numbers associated with the letters represent the organic content in each formation at that locality. The lines represent places in each formation where the organic content is estimated to be 2.5 per cent. The arrows point in the direction of greater organic content. The dots represent location of wells from which samples have been obtained, and the Z's refer to the location of outcrop samples.

Fig. 2—Organic content of upper Cretaceous formations in Wyoming and Northern Colorado

In the Niobrara formation the lines representing an organic content of 2.5 per cent trend in a northerly direction—the one for the upper part of the formation lies in the west part of Wyoming, and for the lower part in central Wyoming, approximately 100 miles east of the position of the line for the upper part of the formation.

Strata occupying the stratigraphic interval between the Niobrara formation and the Mowry shale, viz., the Frontier formation and the Carlile shale, have an organic content ranging chiefly between 1 and 2 per cent—the quantity increasing toward the east and south. The maximum is nearly 3 per cent; and is in Colorado in the Fort Morgan area, 60 miles east of the Front Range.

The organic content of the Mowry formation averages about 2.5 per cent. The Mowry formation has not been generally recognized as a formational unit in northern Colorado; but dark shales relatively rich in organic matter, situated a short distance above beds correlated questionably with the Dakota formation, have been considered tentatively as of Mowry age in the preparation of Figure 2. The richest part of the Mowry shale is in central Wyoming between Lander and Casper, where the organic content is between 3 and 3.5 per cent. In the Cutbank area of Montana, 300 feet of strata, situated 600 feet above the base of the Colorado group, have an organic content of about 3 per cent; and possibly may be the equivalent of the Mowry.

The Thermopolis shale which underlies the Mowry shale in western Wyoming, and the shale for a short distance above beds correlated tentatively with the Dakota formation in northern Colorado, are distinctly poorer in organic content than are overlying beds regarded as the equivalent of the Mowry shale. The organic content of the beds regarded as of Thermopolis age increases from northwest toward the southeast in this area. In northwest Wyoming the Thermopolis shale contains 1 to 1.5 per cent organic matter; and east of the Front Range, in Colorado, the shales overlying the Dakota sandstone contain 2.5 to 3 per cent organic matter. In the Cut Bank area of northern Montana the lower 600 feet of the Colorado group contain from 1 to 1.5 per cent organic matter.

Mid-Continent

As it has not yet been possible to make an adequate number of determinations of nitrogen or degree of oxidation on the sediments in the Mid-Continent area, only a very general statement of the organic content of the formations in this region can be given here. The samples come mostly from four areas: the Ritz-Canton-Decker area in central Kansas; the Burbank area, 100 miles south of the Ritz-Canton-Decker area, in northern Oklahoma; the Oklahoma City area, 100 miles south of the Burbank area; and the Seminole area in south central Oklahoma, 50 miles east of the Oklahoma City area. Scattered samples, principally from beds of Chattanooga age, were obtained from several other areas.

The Permian formations, both in the Ritz-Canton-Decker and Oklahoma City areas, apparently contain less than 1 per cent organic matter. In the Oklahoma City, Burbank, and Ritz-Canton-Decker areas, the organic content of the Pennsylvanian formations above the Cherokee shale averages from 1 to 2 per cent. However, in the Burbank area, some of the shaly parts of the "Oswego lime," a short distance above the Cherokee shale, contain as much as 4 per cent organic matter. The Cherokee shale in the lower part of the Pennsylvanian, in the Burbank and Oklahoma City areas, has an average organic content of approximately 2 per cent; but beds correlated with the Cherokee shale in the Ritz-Canton-Decker area, 100 miles north of the Burbank area, contain about 1 per cent organic matter. The "Mississippi lime" in the Burbank area has an organic content of less than 0.5 per cent. The Caney shale, which overlies the Sycamore limestone (Mississippian) in the Seminole area, contains about 3 per cent organic matter.

The organic content of the Chattanooga shale in central Oklahoma is 5 or 6 per cent. In the Seminole area it ranges chiefly between 5 and 7 per cent; and at Cushing, 50 miles north, it is about 6 per cent. The Chattanooga shale does not seem to be present in the Burbank area; but in two wells a few feet of shale underlying the "Mississippi lime," and perhaps the equivalent of the Chattanooga shale, contain about 2 per cent organic matter. In the vicinity of Wichita, 60 miles north of the Burbank area, light and dark grey shale beds—which in part, at least, seem to be of Chattanooga age—contain about 2.5 per cent organic matter; and 40 miles farther north, in the Ritz-Canton-Decker area, similar beds contain about 1.2 per cent organic matter. In these two areas in Kansas the color of the shales does not seem to be related to the organic content, as both light and dark shales appear to contain about the same amount of organic matter.

The organic content of the formations below the Chattanooga, in general, is less than 1 per cent—except for some samples of Sylvan shale (upper Ordovician) and Viola limestone (middle and upper Ordovician) which contain as much as 2 per cent organic matter. The Arbuckle limestone, as indicated by deep wells in the Burbank and Seminole areas, contains 0.5 per cent organic matter or less.

In a well from the Seminole area, the samples from the upper 800 feet of the Arbuckle limestone contain relatively little material soluble in carbon tetrachloride, i.e., bitumen; but samples between 800 feet and 1,200 feet below the top of the formation are rich in bitumen, the average quantity for the samples analyzed being about 1.5 per cent. As sediments generally contain less than 0.10 per cent material soluble in carbon tetrachloride, this is a very rich content. The distribution of bituminous substances among different strata in this lower part of the Arbuckle limestone is extremely variable, the quantity ranging between 0.03 and 6.34 per cent. After the bitumen had been removed from the sediments by extraction with carbon tetrachloride, the carbon content of the sediments was found to be less than 0.3 per cent. The question is why should these 400 feet of Arbuckle limestone contain so much bitumen and the overlying 800 feet contain so little, especially since the whole formation is so poor in organic matter.

(To Be Continued)

Yearly Gain Reported in Domestic Fuel Oil Use

A steadily growing demand for range oil and domestic heating oils during 1933 is indicated by reports submitted to the U. S. Bureau of Mines by petroleum refiners. Deliveries of range oil increased 44 per cent, or from 6,841,000 bbls. in 1932 to 9,849,000 bbls. in 1933. With average price for domestic heating oils but slightly higher in 1933 than in 1932, with unusually cold weather prevailing in most parts of the country where oil burners are used extensively, and with about 75,000 new domestic burner installations requiring fuel, sales of domestic heating oils—grades Nos. 1 to 4 including furnace oils—were nearly 5,000,000 bbls. above the 1932 total. The reported deliveries of these oils in 1933 were 34,140,000 bbls., or 16.7 per cent above total deliveries of 29,264,000 bbls. in 1932.

In compiling data on the distribution of fuel oil for the Bureau of Mines, some refiners have experienced difficulty in breaking down their sales of light heating oils into "furnace oil" and "domestic heating oils." Because of this it is no longer possible for the Bureau of Mines to maintain separate classifications, hence "furnace oil" is now included under the general grouping of domestic heating oils, or grades Nos. 1 to 4.

Favorable Show in Duval County Wildcat Test; Six Completions in the Sam Fordyce Field

SAN ANTONIO, Tex., Nov. 26.—The favorable showing in a wildcat in northern Duval County, and the completion of six producers in the Sam Fordyce Field, Hidalgo County, were the feature developments in the Southwest Texas district the past week.

Magnolia Petroleum Co.'s No. 1 Labbe, a rank wildcat 8 miles east of the Eagle Hill Field in Survey No 2, Duval County, developed possibilities of opening a new producing area, when it tested 500 pounds of gas pressure in one and one-half minutes on a drill stem test from 2,428-35 feet. The test was made through a one-quarter inch choke on top and a three-quarter inch choke on bottom. The operators are cementing casing, and it is to be tested next week. It is not definitely known, but the test is believed to be in the Hockleyensis formation. The well is on a large block, with most of the acreage being held by Magnolia Petroleum Co. and Stanolind Oil & Gas Co.

Sam Fordyce Field

Out of the six completions in the Sam Fordyce Field, southwestern Hidalgo County, five were producers and one a gas well, bringing the total number of producers in the field to 12. Edwards and Olford's No. 1 E. Flores, 1,000 feet west of the discovery well, was completed at a total depth of 2,807 feet for an initial production of 19 bbls. per hour. Showers and Moncrief's No. 1 John Lawrence, 1,350 feet east of the discovery, extended the producing limits 200 feet east when it made 25 bbls. per hour at a total depth of 2,784 feet, with tubing pressure 1,150 pounds. Location is in Porcion 30, Tract 274. Kingwood Oil Co.'s No. 1 F. B. Guerra, 1,700 feet northwest of the discovery, made 60 bbls. per day at a total depth of 2,806 feet. Same company's No. 3 F. B. Guerra in Tract 254, Porcion 39, a few hundred feet north of the discovery, encountered sand from 2,793-97 feet and was completed for 40 bbls. per hour through a one-eighth inch tubing choke, with tubing pressure 125 pounds and casing pressure 250 pounds. Total depth is 2,797 feet. The best well to be completed was the company's No. 3 John Lawrence, 500 feet east of the discovery in Tract 274, Porcion 39. Sand was cored from 2,746-57 feet and it was completed at a total depth of 2,787 feet for an initial production of 175 bbls. per hour. Lucky, Blocker and Bishop's No. 2 F. B. Guerra was completed for an estimated 20,000,000-foot gas well at a total depth of 2,769 feet. It is located 330 feet east of the operators' No. 1 Guerra, a producer.

Heep Oil Co.'s No. 1 W. R. Jackson, which tested salt water at 2,777-80 feet, the producing horizon of the field, has been abandoned at a total depth of 4,620 feet. Location is 4,000 feet southeast of the discovery in Tract 274, Porcion 39. Alford Oil Co. has made an interesting location just across the line in Starr County, for its No. 1 Flores in the east 20 acres of Tract 250, Porcion 38. It is 3,000 feet north of Phillips Petroleum Co.'s No. 1 Seabury in Hidalgo County, which has been spudded and shut down. Four miles west of the town of Mission, J. D. Brock has made a location on the Brock and Showers ranch in Porcions 78 and 79 in the southwestern part of the county. It is reported Kingwood Oil Co. has made a deal for 2,500 acres of this ranch and will drill the test. One mile east of the producing limits of the Sam Fordyce Field, Davis and Harrison's No. 1 Guerra is being drilled deeper after making nothing but gas at a total depth of 2,750 feet.

In Live Oak County, northeast of the discovery well, Lion Oil & Refining Co.'s No. 2 McNeil is preparing to cement casing at 5,860 feet, and make a test of the sand bottomed at 5,91[illegible] feet. The well tried to blow out last week at 5,81[illegible] feet but was finally killed by pumping in heavy mud and baroid. Another core was taken to a total depth of 5,91[illegible] feet and an electrical coring test indicated the top of the sand at 5,912 feet. The hole bottomed in the same body of sand, which is thought to be the lower Yegua series or in the Cook Mountain. The field was discovered several months ago by the company's No 1 McNeil producing from the Hockleyensis bottomed at 4,360 feet.

Lavaca and Jackson

Along the Jackson trend in Lavaca County, L. A. Douglas is starting a wildcat, No. 1 Putska, in the Moses Mitchell Survey. Across the line in Jackson County, Humble Oil & Refining Co.'s No. 1 Lowrance is drilling in shale below 5,225 feet.

Karnes County

Pacific Gas & Fuel Co.'s No. 1 M. E. Choate, a wildcat in the southern part of Karnes County, about 3 miles northwest of the North Pettus Field, has been completed for an estimated 25,000,000-foot gas well in the Pettus sand bottomed at 3,325 feet. The company has made location for No. 2 Choate, to be drilled near the discovery. F. P. Hynes and others' No. 1 Swierez in the Jasper Flores Survey, a wildcat, has been abandoned at a total depth of 2,503 feet.

Balcones Fault Zone

In the Balcones fault zone, two interesting locations were made during the week. H. H. Weinert and others have made location for a Trinity sand test on the Sylie Schmidt lease in the Wakefield Survey, just east of the Kingsbury Field. The Trinity formation is expected to be encountered between 4,000 and 5,000 feet. Southwest of the Darst Creek Field, J. W. Burrows' No. 1 Beuhrang is located 1,000 feet from the south line and 750 feet from the west line of the J. Clements Survey. It is to be drilled to the Edwards lime.

Amerada Petroleum Corp.'s No. 2 Halff and Oppenheimer, deep test near Pearsall in Frio County is still fishing at 1,050 feet for stuck drill pipe. It is bottomed in the Trinity formation, reported topped at 9,775 feet. Location is 4 miles southwest of Pearsall in the J. H. Gibson Survey No. 16.

Laredo District

In the Laredo district, 10 producers and 5 new locations were reported, with the majority of the activity taking place in the West Cole Field of Webb County and the Government Wells Field in Duval County. In the West Cole Field, American Liberty Oil Co. completed No. 4-A Bruni for an initial production of 25 bbls. per hour at a total depth of 3,419 feet in the Bruni townsite area, Survey No. 6. The other completion was a gas well, Cole Petroleum Co.'s No. 87 Benavides, completed for a 10,000,000-foot gasser at a total depth of 3,431 feet.

Government Wells

Six producers and two abandonments were registered for the Government Wells Field, Duval County, two completed by Magnolia Petroleum Co., and the rest divided among independent companies. Brown and Neesly abandoned No. 4 Runnels in Survey No. 62 at a total depth of 2,366 feet. The other abandonment was Magnolia Petroleum Co.'s No. 11-A C. W. Hahl at 2,325 feet, in Survey No. 45.

Zapata County

In the Las Escobas Field, Zapata County, Texas Co.'s No. 58 Whitehead, on the Cerrito Blanco Grant Survey, was completed at 1,256 feet for an estimated 5 bbls. of oil per day.

Starr County

In the southwestern part of Starr County, about 15 miles northwest of the Sam Fordyce Field, Henshaw Brothers-Weston and Simon are expected to spud No. 1 M. M. Garcia in Block 9, Survey 908. In the same county, but in the Jeffries-Lambeth area, Merren, Johnson and others' No. 1 Starr County Cattle Co. in Block 37, Jeffries-Lambeth Subdivision of Porciones 88-89, Ancient Jurisdiction of Camargo, cored a gas sand from 2,484-96 feet and was expected to make a drill stem test over the week-end, in oil sand expected below 2,514 feet, the producing horizon found in other wells in that area.

Since the discovery of the Sam Fordyce Field in Hidalgo County, quite a few drilling blocks have been taken in Starr County, and some interesting locations are to be announced within the near future. E. H. Stickney has acquired a drilling block and it is reported will drill a 4,000-foot test in Survey No. 166. Magnolia Petroleum Co. is reported to have taken a 200-acre spread around the test. John Clopton of San Antonio is reported to have taken four drilling blocks within the county, all on the holdings of Mrs. Anna M. Kelsey Bass. A 3,500-foot test is to be drilled on 1,028 acres lying 3 miles northwest of Rio Grande City which takes in Shares 12 and 13, in Porciones 75, 76 and 77. The second block, consisting of 1,280 acres, is approximately 10 miles east of Rio Grande City and consists of all of Shares 11 and 12 out of Porciones 86 and 87. A 4,000-foot test is to be drilled on this block. The third block consisting of 3,400 acres is out of Porciones 91 and 92 in the Barbacons Field area and is to be tested with a 4,500-foot test. In the northwestern part of the county, his fourth block contains 3,200 acres, and the drilling contract calls for four tests, one to be drilled to 3,000 feet and the others to 1,500 feet. The surveys included in this block are 355, 356, 357, 358 and 377.

NORTHEASTERN MEXICO

In Northeastern Mexico, Consolidated Oil Co. of Mexico has made location for its No. 2 Zacata, 2 kilometers southwest of the company's No. 1 Zacata, drilled last year. Both locations are approximately 40 miles west of Reynosa, Mexico, opposite McAllen, Tex.

Wildcat Operations in Southwest Texas

Week Ending November 24

BANDERA COUNTY

A. P. Crane & Co.'s No. 1 Watson, 988 ft. NE line, 926 ft. SE line, Sec. 71, Antonio Curvier Sur.
T.D. 1,790 ft.; standing.

Plateau Oil Co.'s No. 1, Garrison Sur. No. 506, 1,500 ft. from N and 1,700 ft. from E lines of Sur. (3 mi. SW of Medina).
T.D. 1,181 ft.; reaming to lower 12¼-in. csg.; csg. stuck; trying to loosen.

BASTROP COUNTY

Champion et al's No. 1 Charles E. Anderson, Antonio Navarro Sur.
Abd. 850 ft.

BEE COUNTY

Dirk Bros.' No. 1 Foley, N cor. of W. L. Foley tract, about 1 mile N of Simms' No. 1 Holxmark.
Location.

Arthur W. Gray's No. 1 Rutledge, 2,322 ft. from N line, 250 ft. from E line of 200-ac. tract in B. Q. Hadley Sur.
Location.

Cecil Hagan's No. 1 John R. Scott, 1½ mi. NE of Morgan test.
Derrick.

R. M. Herod's No. 5 Kimball, 810 ft. from E line, 150 ft. from N line of 110-ac. tract in S. Winship Sur.
Derrick.

Bill Hindeman's No. 1 Imogene Hall, 2,310 ft. along NW line of 81½ of H. W. Fontaine Sur., thence at R/A 1,362 ft.
Location.

Wm. F. Morgan et al's No. 1 Hicks & Hall, Sec. 43 (Normanna area).
Swbng. 3,638 ft.

Humble O. & R. Co.'s No. 1 Daniel Fox, 7,500 ft. from N line, 2,370 ft. from E line of 1,884-ac. tract in M. Fox Sur.
T.D. 5,667 ft.; P.B. to 3,800 ft.; to straighten hole.

Mid-Continent Cruce Oil Co.'s No. 2 Kimball (Grayburg area).
Coring 3,530 ft.

R. J. Worthington et al's No. 1 Rutledge, 1,000 ft. from N line and 200 ft. from E line of A. Hadley Sur.
T.D. 3,434 ft.; preparing to set csg.

BEXAR COUNTY

Lloyd Bender's No. 1 Evans, 1,200 ft. from W line, 200 ft. from N line of 319.7-ac. tract in de la Garza Sur.
Standing 975 ft.

Dr. Dickens' No. 1 Victor Golia, 150 ft. NW line and 150 ft. NE line of Cardines No. 25 Sur.
S.D. 530 ft.; set csg.

Jones & Kieffer's No. 1 LaGrane, NW cor. of tract, 210 ft. each way, F. Rolen Sur.
Spudded.

McFee & Briggs' No. 1 Lamb, 9,200 ft. from S line, 300 ft. W line, Manvel Deluna Sur. No. 3, Tract A. & B.
S.D. 1,065 ft.

Geo. O'Neill et al's No. 1 Salek Cherniarsky, E of Eckert Field.
Drlg. 820 ft.

Ricker, Auld & Bonner's No. 1 French Estate, S of C Sec., on 1,000-ac. tract.
Dry and abd. 1,313 ft.

R. Y. Walker's No. 1 L. A. Hamilton, 550 ft. SE and NW cor, 1,110 ft. NE of NW line of tract, Blk. 4,007.
Drlg. 855 ft.

BROOKS COUNTY

Helmerich & Payne's No. 1 Scott and Hooper, Palo Alto y Guerra grant.
Location.

CALDWELL COUNTY

Anderson's No. 1 Perry, 330 ft. SE and NE lines of 27-ac. tract, Giddeon Pace Sur.
Drlg. 1,955 ft.; no report.

O. Dawn's No. 1 F. Tiller, 250 ft. from N line, 1,000 ft. from E line of 37-ac. tract, in G. Hinds Sur.
Drlg. 2,055 ft.

Fomax Oil Co.'s No. 1 B. G. Tiller, 500 ft. from N line, 150 ft. from W line of tract in G. Hinds Sur.
Derrick.

F. P. Hynes et al's No. 1 Tramwell, 750 ft. from SE line and 330 ft. from NE line of tract in Ester Berry Sur.
No report.

Kurz Oil Co.'s No. 1 Kurz ranch fee, 4,000 ft. SW line and 4,300 ft. SE line of Barnard Kiekant Sur.
Drlg. 3,850 ft.

F. Meyers' No. 1 Mooney, 260 ft. from road, 350 ft. from middle of SE cor. of 102-ac. tract, Seale Sur.
Derrick.

Stanley Smith's No. 1 J. C. Copeland, about 4 miles SW of Lockhart and beyond the Mebana Estate.
Setting up machinery.

DUVAL COUNTY

Conway & Buescher's No. 2 Hoffman, 330 ft. NE and SE lines of Sur. 119.
Spudded in and standing.

Grimes et al's No. 1 Fitzsimmons, 300 ft. S line and 150 ft. E line, Sur. 291.
Standing 115 ft.

W. C. McBride's No. 1-A Hagist, 330 ft. from N and E lines of Blk. 2, Sec. 265.
Standing 1,068 ft.

Mills Bennett Prod. Co.'s No. 1 D.C.R.C., 150 ft. N, 4,200 ft. E line of Sur. 192.
Drlg. 2,706 ft.

Stieren Oil Co.'s No. 1 J. P. Philp, 1,650 ft. S line, 990 ft. E line, Sur. 320.
Drlg. 2,590 ft.

W. B. Stewart's No. 1 Juan Benavides, 3,752 ft. S of the most southerly N line and 330 ft. from SW line of Sur. 355.
T.A. 3,541 ft.

Texas Co.'s No. 2 Graham, 990 ft. SE line, 1,650 ft. SW line of Sur. 571.
Derrick.

EDWARDS COUNTY

Carter et al's No. 1 W. A. Miers, 990 ft. from N and E lines of Sec. 6, C.C.S.D.& R.G.N.G. Sur.
T.D. 535 ft.; running csg. to 400 ft.

(Continued on Page 47)

Activities Are Increasing in West Texas District; Rains Slow Operations in Wichita Falls Area

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Nov. 26.—Ten completions and 19 locations staked in West Texas during the week show activities to be on the increase. Five were either wildcat or semiwildcat locations, the latter being in exceptionally interesting areas due for considerable exploitation and development during the next few months. Four of the completed tests were abandoned wildcats, marking off as many possible producing areas. The remainder were producers in various fields.

One test abandoned in Fisher County, Merry Brothers and Perini's No. 1 Dean, was given up at 3,204 feet. It was about 2 miles south of the Royston Pool. Texas-Inland Oil Co.'s No. 1 Boaz, 5 miles north of the Noodle Creek Pool, Jones County, was also abandoned, total depth 2,561 feet.

Ward County

Ward County got its largest initial producer this week, out of some 300 completed producers in the county, when the California Co.'s No. 15 Durgin, in Section 15, Block 34, H.&T.C. Survey, came in making 2,950 bbls. at a total depth of 2,559 feet. Increases in pay were logged at 2,461-68, 2,469-75, 2,477-82, and 2,497-2,552 feet. The first oil was logged at 2,295-98 feet. Location is in the Grand Falls area, in southern Ward County, but in the western extension of this area where recent completed wells have proved larger, as a whole, than in the first drilled section.

Andrews County

R. S. Bond and others' No. 1 McCarley, several miles southeast of the Deep Rock Pool, Andrews County, is shut down at 5,001 feet in lime and anhydrite, appearing as a dry hole and marking off an area in this, one of the most closely watched counties in the district at present.

Humble Oil & Refining Co.'s No. 1 Means, in Section 2, Block A-35, P.S.L. Survey, makes the Means Pool appear more promising than the first two wells did. This third test in the recently discovered pool made 254 bbls. of oil in 24 hours at total depth of 4,527 feet, only 15 feet in the pay. The second test was a small pumper, and the discovery well was swabbed during the past week to revive production after it went dead. The second test is to the east of the discovery and the third test is a south offset. The company is drilling one other test in the area, and has rig up for another test on offset acreage.

Honolulu and Llano Oil Co.'s No. 1 Parker, in Section 7, Block A-44, to the southeast of the Deep Rock Pool, Andrews County, was plugged back to 4,750 feet, and filled while waiting on cement to set. Total depth was 4,780 feet. It assures the county of a separate pool, or an extension to the Deep Rock Pool, although the well itself will probably be only a small pumper.

Howard County

The important outpost test of the Iron Mountain Oil Co. on the Reed farm, in Section 46, Block 30, Township 1n, T.&P. Survey, about three-quarters of a mile northwest of the Dodge-Denman Pool, eastern Howard County, made one 20-bbl. head of oil when drilled to total depth of 2,760 feet where it was shut down to set casing. It topped the pay about 10 days ago, at 2,438 feet.

Upton County

The showing of oil and gas made by Gulf Production Co.'s Ordovician test, No. 103 McElroy, in Section 197, Block F, eastern Upton County, failed to materialize into anything more than previously reported. It swabbed 105 bbls. of salt water and some oil on a 24-hour test during the week and tubing was pulled and drilling resumed. Total depth was 10,978 feet when tested. The salt water does not lend much encouragement to the test, which is the deepest drilled in Texas.

Reagan County

Skelly Oil Co. and others are making exceptionally fast time in drilling No. 1 Grayson-University, in Section 33, Block 8, southern Reagan County. It is now below 8,100 feet, making nearly 900 feet in seven days' drilling, good time in drilling at this depth. It too, is in quest of production found in the Ordovician lime, the same formation from which high gravity oil is produced in the Big Lake Field, to the north about 7 miles.

Winkler Wildcat

Gulf Production Co. has staked location for a wildcat in eastern Winkler County, on a block of nearly 15 sections in the SE cor. Section 20, Block 40, P. S.L. Survey, around 11 miles east and a little south of Kermit. Another wildcat location was staked this week to the east of the Hendricks Field. Sid Richardson has rig up on this location, which is in the SW cor. Section 1, Block B-3, P.S.L. Survey, 4¾ miles northeast of Kermit, or 4½ miles east and a little north of the recently completed wildcat discovery of Sayre Oil Co. in Section 12, Block 26, which has precipitated an active drilling campaign in its vicinity.

Andrews Wildcat

A wildcat test is proposed for Labor 12, League 315, Parmer County School Lands, northern Andrews County, by R. L. York, O. C. Harper and Harry Adams Drilling Co., all of Midland. Several major companies have signified intentions of supporting the proposed test, location for which will probably be announced this week.

International Petroleum Corp. of Fort Worth is to drill immediately near the Broderick and Calvert discovery well in Section 25, Block 44, Township 2s, T.&P. Survey. Several tests drilled in various directions from this discovery have proven failures, hedging the pool on several sides, and causing it to lose importance. The owners of the discovery are also planning to drill a second test on their block.

WICHITA FALLS DISTRICT

In the Wichita Falls district heavy rains caused many rigs to shut down, the result being only 30 tests completed in the entire district. Only 11 locations were staked, a let-down from the usual total of around 35 or 40. Of the 30 tests completed this week nine were reported abandoned. One completion was a deep test on the Munger Brothers lands in Wichita County by the Deep Oil Development Co. Total depth is 3,771 feet. It topped the pay at 3,755 feet and when tested made 15 bbls. per day initial gauge.

Production in the district averaged 59,835 bbls. per day during the week.

PANHANDLE DISTRICT

There were eight locations staked in the Panhandle district during the week, no wildcat locations being included. Eleven tests were completed, all producers, in various fields. Five were pumpers and one was a gas well. The majority was shot before completing.

Dixon Creek Oil Co. has 1,800 feet of oil in the hole in its No. 1 McConnel, in Section 201, Block 3, I.&G.N. Survey, Carson County, a strictly gas-producing area. The oil pay was logged at 3,207 feet, the company shutting down the test when 1 foot in the pay, to erect storage tanks.

Production in the Panhandle district for the week averaged 55,965 bbls. per day. This is a decrease of 687 bbls. per day under the previous week's daily figures.

COMPLETIONS IN WICHITA FALLS

Archer County

Anarene Oil Co.'s No. 1 Coffield, top pay 1,175 feet, total depth 1,184 feet, initial production 15 bbls. Burns' No. 3 Harris, dry and abandoned 1,384 feet. Clampitt and others' No. 2 Benson, top pay 820 feet, total depth 828 feet, initial production 25 bbls. oil and 25 bbls. water. Fain & McGaha's No. 26 Arnold, top pay 1,189 feet, total depth 1,205 feet, initial production 200 bbls. Hammon Oil Co.'s No. 8 Aber, top pay 1,169 feet, total depth 1,180 feet, initial production 15 bbls. Kolp's No. 1 Harron, top pay 1,278 feet, total depth 1,284 feet, initial production 15 bbls. King and others' No. 2 Andres, top pay 975 feet, total depth 980 feet, initial production 15 bbls. Minton and others' No. 1 Plowman, dry and abandoned 1,400 feet. Neff's No. 1 Scott, top pay 1,148 feet, total depth 1,150 feet, initial production 30 bbls. oil and 8 bbls. water. Pace's No. 15 Abercrombie, top pay 1,155 feet, total depth 1,165 feet, initial production 60 bbls.; No. 16 Abercrombie, top pay 1,156 feet, total depth 1,173 feet, initial production 50 bbls. Petroleum Producers Co.'s No. 7 Harmonson, top pay 990 feet, total depth 1,000 feet, initial production 50 bbls.; No. 5-E Richardson, top pay 1,246 feet, total depth 1,261 feet, initial production 125 bbls. Sinclair Prairie Oil Co.'s No. 6 Boyles, top pay 1,115 feet, total depth 1,123 feet, initial production 75 bbls.

Jack County

Smith's No. 1 Sauver, dry and abandoned 1,320 feet. Moso Oil Co.'s No. 1 Hanna, dry and abandoned 300 feet. Dobbs Oil Co.'s No. 1 Brown, dry and abandoned 1,081 feet.

Montague County

Continental Oil Co. and Seitz' No. 1 Hall, top pay 1,552 feet, total depth 1,645 feet, initial production 35 bbls. Rosenberger and others' No. 1 Cunningham, dry and abandoned 2,405 feet.

Wichita County

Burns and Long's No. 11-D Allen & Kemp. top pay 465 feet, total depth 472 feet, initial production 10 bbls. Deep Oil Development Co.'s No. 1 Blank, top pay 3,755 feet, total depth 3,771 feet, initial production 15 bbls. Golding & Cochran's No. 7-C Waggoner Brothers, dry and abandoned 1,892 feet. Harry Hinds and others' No. 5 Waggoner, dry and abandoned 1,601 feet. Petroleum Producers Co.'s No. 5 Allen & Kemp, top pay 462 feet, total depth 464 feet, initial production 10 bbls. Petroleum Producers Co. and Bailey's No. 1-C First National Bank, dry and abandoned 1,830 feet. Wolfe's No. 4 Haume, top pay 750 feet, total depth 754 feet, initial production 6 bbls.

Wilbarger County

Lido Oil Co.'s No. 8 Waggoner, top pay 2,437 feet, total depth 2,461 feet, initial production 70 bbls. in seven hours swabbing. Luther Webb's No. 8-E Waggoner, top pay 1,884 feet, total depth 1,894 feet, initial production 125 bbls.

Young County

Berner and others' No. 1 Brown, dry and abandoned 586 feet. Glover and others' No. 5 Clarida, dry and abandoned 632 feet.

PANHANDLE COMPLETIONS

Gray County

Dixon Creek Oil & Gas Co.'s No. 1 Benedict, total depth 3,270 feet, shot with 310 quarts from 3,190-3,264 feet, initial production 322 bbls. per day, pumping; No. 3 Jackson, total depth 3,263 feet, shot with 300 quarts from 3,179-3,285 feet, initial production 296 bbls. per day, pumping. Magnolia Petroleum Co.'s No. 4 Haggard, top pay 3,255 feet, total depth 3,301 feet, shot with 150 quarts from 3,255-95 feet, initial production 222 bbls. per day, pump-

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Wildcat Operations in West Texas

Week Ended November 26

ANDREWS COUNTY

R. S. Bond et al's No. 1 McCarley, 1,320 ft. from N and W, Sec. 29, Blk. 3, P.S.L. Sur.
Drlg. 4,974 ft.

Honolulu and Llano Oil Co.'s No. 1 J. E. Parker, 1,320 ft. from S line and 1,470 ft. from W line of Sec. 7, Blk. A-44, P.S.L. Sur.
S.D. 4,780 ft.; plugged back 4,750 ft.; 1,850 ft. oil in 17 hrs.

Humble Oil & Ref. Co.'s No. 1 B. S. Walker, 660 ft. from E line and 660 ft. from S line of Sec. 6, Blk. A-43, P.S.L. Sur.
T.D. 4,500 ft.; 500,000 ft. gas; no oil.

Humble Oil & Ref. Co.'s No. 2 Means, 1,980 ft. from S and 1,487 ft. from W, Sec. 4, Blk. A-19.
Pumping around 50 bbls. fluid per day, 15 per cent water.

Humble Oil & Ref. Co.'s No. 2 Means, 660 ft. from N and 1,980 ft. from W, Sec. 11, Blk. A-35.
Surface pipe at 205 ft.

Humble Oil & Ref. Co.'s No. 3 Means, 1,980 ft. from S and 3,300 ft. from W, Sec. 4, Blk. C-45.
Rig.

BORDEN COUNTY

Moore Bros.' No. Clayton & Johnson, 1,320 ft. N and E, Sec. 29, Blk. 32, Twp. 4n, T.&.P. Sur.
Location.

BREWSTER COUNTY

Joiner et al's No. 1 McIntyre, 353 ft. from S, 2,390 ft. from E of Sec. 31, Blk. 352, W. M. Mitchell Sur.
S. D. 2,100 ft.

King & Franklin's No. 1 Gage Est., C Sec. 138, Blk. 22, G.H.&S.A. Sur.
S.D. 341 ft.

COCHRAN COUNTY

Kelsey's No. 1 Slaughter, C Labour 36, League 150, R.C.S. Lands.
Location.

West Texas Development Co.'s No. 1 Slaughter, near C of Labour 53, League 149, Randall Co. School Lands.
Derrick.

COKE COUNTY

Wm. Hooper's No. 1 Gaston, 340 ft. from S line and 654 ft. from W line of Joseph Sur. No. 11.
S.D. 2,560 ft.

CRANE COUNTY

Loffland Bros. et al's No. 1 Tubbs.
T.D. 4,510 ft.

Strauss' No. 1 Phelps et al, 2,113 ft. from N and 713 ft. from NW Sec. 13, Blk. 31, H.&T.C. Sur.
S.D. 420 ft.

CULBERSON COUNTY

Anderson-Pritchard Oil Corp., Magnolia Pet. Co. et al's No. 1 Borders, 1,255 ft. N and

(Continued on Page 46)

Gas Area in Anderson County May Have Oil; Locations in East Texas Field Reach New High

By L. E. BREDBERG

DALLAS, Tex., Nov. 26.—Gulf Production Co. has apparently opened another gas producing area in Anderson County, if not an oil producing field, the latter to be tested by deeper coring. The company's No. 1 Royal and Davey, in the M. Rogers Survey, approximately 7 miles southeast of Palestine, cored from 5,051-66 feet, of which 2½ feet was hard gray chalk, 1 foot was hard gray shaley sand, 4½ feet was lime and gray sand saturated in spots with a good odor of oil, and 3½ feet of dark gray sandy shale which had a slight salty taste. The first drill stem test was made with packet set at 5,041 feet. The test showed around 1,200 feet of mud and no salt water, but a large volume of gas blew through the three-eighths inch choke on bottom and one-fourth inch choke on top, on the six-minute test.

The second drill stem test, made with packer set at 5,045 feet, showed around 700 feet of mud, one-half gallon of distillate, no taste of salt water and a large volume of gas. Working pressure tested 205 pounds. This was a three-minute test. No estimate was made as to the volume of gas, although reports stated it appeared to be about the same as in the Long Lake wells, some of which tested over 35,000,000 feet per day.

The test is the most interesting in the district during the past 10 days, and this showing of gas with distillate, and an odor of oil, has brought operators and company men scurrying back to Palestine, which enjoyed an oil boom in the latter part of 1933 and the fore part of 1934. The Long Lake Field was brought in in September, 1933, and the Cayuga Field, in northwest Anderson County, was discovered the fore part of March, this year. The Long Lake Field, however, has had only five tests drilled in the pool proper, of which three were dry gassers and two small oil producers with a large volume of gas. Hunt production Co. recently completed a gasser approximately 2½ miles northeast of the Long Lake discovery, extending the gas-producing area and proving a larger gas reserve, to which Lone Star Gas Co. is now connecting with a 72-mile 16-inch line to augment its supply piped from the Ranger district to towns and counties in this part of the State.

Cayuga Field

The Cayuga Field has 13 gas wells, 11 owned by the Tide Water Oil Co. and Texas Seaboard Oil Co., joint owners of this and the Long Lake Field. The Boggy Creek, an old producing field in the northwest corner of the county, is an oil-producing field, unlike the two fields on the west side, although the Cayuga Field is considered mainly as an oil-producing field.

Whether Gulf Production Co. has opened only a gas field, or has uncovered a field similar to the Cayuga Field, remains to be seen. Two dry holes were drilled by Byrd and Frost and others this year, and Humble Oil & Refining Co. had a dry hole north of the Gulf discovery. Showings in these tests prompted Gulf to drill on its block surrounding the Davey and Royal test, and logs of those tests gave more control on the geology on the block held by Gulf.

This test logged a shallow saturated sand, known as the Carrizo, at 466-81 feet, which it passed up in quest of production in the Woodbine sand, from which it has just tested the large volume of gas. Neill McDowell and others have set 6-inch casing at 350 feet on a shallow test about 1 mile north of the Gulf test, after picking up 18 feet of saturated sand and a good showing of oil. Total depth of this test is 370 feet. It should be completed during the week, either as a failure, or proving up shallow production. It is on the Camp lands, in the J. Swearingen Survey. One shallow test, about 2 miles southwest of the Gulf test, has been abandoned at a total depth of 810 feet, and Killough and Tucker are to drill a shallow test on the J. King 30-acre tract in the Hill Survey, 3 miles northeast of the Gulf test. Two other shallow tests are also proposed in the area. The abandoned shallow test was drilled by Ormsby and others on the Elkhart State Bank lands, in the P. Martin Survey. It logged sand from 755 feet to the bottom of the hole, 810 feet.

More Tests Expected

Renewed interest in this, and nearby counties, has been caused by the showings in the Gulf test, probably resulting in more tests being drilled near this discovery in the near future. A fair sized block surrounding the well is held almost in its entirety by the Gulf Production Co., although Sun, Humble Oil & Refining Co. and others have a few pieces of acreage. Leases in and around the block have been held at $65 per acre and above for over a year, and prices for outside acreage, and leases within several miles from the discovery, have already "skyrocketed."

While this discovery was creating a new "boom" for Palestine and Anderson Counties, three more wildcat areas were rubbed off the possible producing list in the district when tests were abandoned. Syam Oil Co. is plugging its No. 1 Ray, in the Stevenson Survey, 3 miles southwest of Rural Shade, Navarro County, and Abercrombie and Harrison only drilled their No. 1 Watson, in the E. H. Tarrant Survey, Red River County, to 1,100 feet, where it was abandoned.

Pace and McAuliff are taking 6,000 acres north of Cherino, centering in the Yarbrough Survey, Nacogdoches County, for a 6,000-foot test, and a block of around 5,000 acres in the Fry, Cannon, Browne, Taylor, White, Morris, Johnson and Crawford Surveys, has been taken by S. Rotunda for a Woodbine test in Titus County.

Frank Bryan, of Waco, has assembled 8,000 acres southwest of Dawson and southeast of the town of Hubbard, in Navarro County, on which a Woodbine test will probably be drilled. The block centers near the corners of Hill, Limestone and Navarro Counties, in the J. Lecompt, George Hill, J. R. Murran, L. Fry, and Graham Surveys.

R. H. Deskin has leased 1,000 acres around Bazett and in the Barnett, Ross, Hanks, and Jordan Surveys, in Navarro County, and may drill a test.

EAST TEXAS FIELD

Locations in the East Texas Field showed an increase for the week, reaching a new recent high of 108. They have been running around 45 to 55 each week, with completions holding about the same. There were 72 completions reported, 1 a small producer flowing by heads; 2 were completed swabbing, and 8 were added to the pumping list. One test, a west edge, dry, in Smith County, was abandoned, total depth was 3,732 feet. L. A. McMillan drilled this test on the Denton farm.

Two producers were completed in the Cayuga Field, Anderson County, and a dry hole was added in Freestone County by Dodwell and others on Pasadena Co. lands, in the J. Graham Survey, 3½ miles northeast of Teague. Nenny and others have abandoned their No. 1 J. I. Coulter, in the M. Estrada Survey, 2 miles northwest of Sand Flat in Smith County. Total depth is 4,406 feet.

Magnolia Petroleum Co.'s No. 9 Grissom, in the London area, Rusk County, has successfully plugged back to shut off bottom hole water that was no doubt caused on this high part of the structure by other nearby wells having previously been drilled too deep, thereby penetrating the salty strata and causing migration of water. Total depth was 3,724 feet, 11 feet of formation having been plugged off in the recent job. It flowed 19 bbls. in 15 minutes through 2½-inch tubing when completed.

COMPLETIONS IN EAST TEXAS

Gregg County

Dean & Atkisson's No. 2 Young, top pay 3,547 feet, total depth 3,575 feet, initial production 100 bbls. per hour, 2-inch tubing.

J. F. Anderson's No. 2 Foshee Estate, top pay 3,647 feet, total depth 3,650 feet, initial production 60 bbls. in 40 minutes.

Bailey & Trimble's No. 4 Jones, top pay 3,581 feet, total depth 3,615 feet, initial production 25 bbls. in 15 minutes.

Circle Oil Co.'s No. 2 Rosedale Cemetery, top pay 3,570 feet, total depth 3,595 feet, initial production 34 bbls. in 30 minutes through three-quarters-inch choke.

Gulf Production Co.'s No. 62 Judge, total depth 3,537 feet, initial production 56 bbls. per hour, 2-inch tubing.

O. G. Murphy's No. 10 Doby, top pay 3,521 feet, total depth 3,563 feet, initial production 52 bbls. per hour, 2½-inch tubing.

Port Boliver Co.'s No. 1 Mackey, dry and abandoned 3,660 feet, elevation 261 feet.

Rudco Oil & Gas Co.'s No. 2 Bruton, total depth 3,670 feet, initial production 7 bbls. per hour, pumping.

Seloy & Lewis' No. 19-A Snavely Heirs, total depth 3,572 feet, initial production 35 bbls. in 30 minutes.

Shell Petroleum Corp.'s No. 16 Hampton, total depth 3,675 feet, top pay 3,605 feet, initial production 35 bbls. in 30 minutes.

Stoddard and Reprimo's No. 3-B McKinley, top pay 3,625 feet, total depth 3,640 feet, initial production 75 bbls. per hour.

Sun Oil Co.'s No. 7 Tate, top pay 3,527 feet, total depth 3,532 feet, initial production 35 bbls. per hour.

Tide Water Oil Co.'s No. 10 Jones, top pay 3,657 feet, total depth 3,669 feet, initial production 10 bbls. in 10 minutes.

Valley Osage Oil Co.'s No. 10 Lee, total depth 3,657 feet, initial production 105 bbls. per hour through one 1-inch choke.

Yount Lee Oil Co.'s No. 8 Orms, top pay 3,535 feet, total depth 3,558 feet, initial production 61 bbls. per hour through eleven-sixteenths inch choke; No. 12 Stuckey-Thrasher, total depth 3,549 feet, initial production 61 bbls. per hour through eleven-sixteenths inch choke.

Atlantic Oil Producing Co.'s No. 5 Smith, top pay 3,669 feet, total depth 3,681 feet, initial production 130 bbls. per hour.

Continental Oil Co.'s No. 4 King, top pay 3,695 feet, total depth 3,680 feet, initial production 128 bbls. per hour.

Everetts Drilling Co.'s No. 3 Laird, top pay 3,534 feet, total depth 3,600 feet, initial production 40 bbls. in 20 minutes.

Flanigan Production Co.'s No. 3

East Central Texas Wildcats

Week Ending November 24

ANDERSON COUNTY

Gulf Prod. Co.'s No. 1 Dovey & Royall, 330 ft. from NE and NW of 172-ac. tract, M. Rogers Sur.
Top Austin 4,875 ft.; testing at 5,066 ft.; had showing of oil and salt signs.

J. W. Lutter' No. 1 C. McKee, 2,640 ft. from N line of lease and survey and 330 ft. from W line of McKey 800-ac. tract.
Derrick.

Neil & McDowell et al's No. 1 Camp, 395 ft. from S and 150 ft. from E of SE 40 acres in J. Swearingen Sur.
Top Carrizo 362 ft.; S.D. 371 ft.; to set csg.

Ormsby Drlg. Co.'s No. 1 Elkhart State Bank, 150 ft. N and E of 40-ac. tract, P. Martin Sur.
S.D. 704 ft. for repairs.

Trinity State Oil Co.'s No. 1 Trinity River, 1,870 ft. N and 1,200 ft. W of SW cor. of Sullenberger lands, Wm. Snyder Sur.
Spudded.

BOWIE COUNTY

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate, 600 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
Rigged up.

CHEROKEE COUNTY

J. B. Daniels' No. 1 Southern Pine Lbr. Co., 4,000 ft. N and 150 ft. W of SE cor. of Thompson Sur.
Location.

H. L. Hunt Prod. Co.'s No. 1 Powell Lumber Co., 467 ft. from S and W lines of 52-ac. tract, 1 mile E and one-quarter mile N of discovery well, D. W. McNab Sur.
Location.

Jacksonville O. & G. Co.'s No. 1 H. D. Henderson, 660 ft. from N and W lines of 40-ac. tract out of Tankersley 104-ac. tract, 5 miles NE of Jacksonville on W side of railroad, J. Pineda Sur.
T.D. 752 ft.

South Gulf Oil Co.'s No. 1 Joe Bailey, center 164-ac. tract, 4 miles NE of Ponta, L. R. Rhodes Sur., Abstract No. 724.
T.D. 4,396 ft.; P.B. 4,193 ft.; S.D.

E. M. Thomason et al's No. 1 Addis Estate, 250 ft. S of survey and 150 ft. E of railroad, J. T. Jones Sur., 6 miles NW Alto.
S.D. 2,150 ft.

Wilson Stubbs Oil Co.'s No. 1 Rowborta, 450 ft. from S line, 150 ft. from W line of 100-ac. tract, 2 miles SW of Jacksonville, J. D. Wolfin Sur.
S.D. 1,550 ft.

ELLIS COUNTY

Beckner-Finley et al's No. 1 Coker, 2,900 varas along S line of grant from river and 1,700 varas N at R/A, R. De La Pena Sur.
S.D. 205 ft.

FREESTONE COUNTY

Burris' No. 1 R. J. Johnson, NE cor. of a 95.5-ac. tract, W. M. C. Jones Sur.
S.D. 1,000 ft.

Hailey-Young's No. 1 Cochran, 400 ft. N and W lines, D. Bullock Sur., 1 mile SE of Lima.
Location.

GREGG COUNTY

O. T. Clark's No. 1 Williams, 2,100 ft. from S and 2,400 ft. from W of D. Hill Sur., 3 miles NE of Longview.
Drlg. 1,110 ft.

HARRISON COUNTY

W. G. Boyd et al's No. 1 W. L. Rudd, no check; in sec. of 360-ac. tract and sur., W. D. Perry Sur.
Elev. 316 ft.; drlg. 1,625 ft.

HENDERSON COUNTY

Campbell and Chamberlain's No. 1 R. Ansley, 1,724 ft. W and 300 ft. S of SE cor. of M. Matthews Sur., N. H. T. Thompson Sur.
Top Pecan 2,608 ft.; drlg. 2,766 ft.

Crosby and Pulp's No. 1 M. T. Dobbs, NW cor. of east Dobbs 100-ac. tract, 4 miles E of Malahoff and S of Railroad, George Aldrick Sur.
Drlg. 4,158 ft.

HOPKINS COUNTY

D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 76-ac. tract, 1 mile SE of Miller Gros, A. Caro Sur.
S.D. 1,485 ft.

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Walker, top pay 3,567 feet, total depth 3,575 feet, initial production 150 bbls. per hour.

Galvez Oil Co.'s No. 2 Alexander, top pay 3,537 feet, total depth 3,550 feet, initial production 20 bbls. in 24 hours, pumping.

General Crude Oil Co.'s No. 11 Scott, top pay 3,565 feet, total depth 3,580 feet, initial production 97 bbls. per hour.

Gulf Production Co.'s No. 58 Hilburn, top pay 3,541 feet, total depth 3,566 feet, initial production 60 bbls. per hour; No. 3 Still, top pay 3,513 feet, total depth 3,557 feet, initial production 20 bbls. in two hours, pumping.

Marine Corp.'s No. 5 Crim, total depth 3,599 feet, plugged back to 3,583 feet, initial production 100 bbls. per hour.

Schroeder's No. 2 King, top pay 3,535 feet, total depth 3,610 feet, initial production 22 bbls. in eight hours, swabbing.

Sun Oil Co.'s No. 33 Cole, top pay 3,518 feet, total depth 3,544 feet, initial production 90 bbls. per hour.

Texas Co.'s No. 40 Cole, top pay 3,534 feet, total depth 3,549 feet, initial production 72 bbls. per hour; No. 11 Dickson, top pay 3,582 feet, total depth 3,587 feet, initial production 22 bbls. in 20 minutes; No. 11 Walker, top pay 3,582 feet, total depth 3,587 feet, initial production 60 bbls. per hour.

Wheelock and Collins' No. 9 Clayton, top pay 3,540 feet, total depth 3,560 feet, initial production 60 bbls. per hour.

Rusk County

Geier Brothers' No. 2 Minor, top pay 3,672 feet, total depth 3,680 feet, initial production 37 bbls. in 20 minutes.

Houston Oil Co.'s No. 8 Laird, total depth 3,660 feet, initial production 25 bbls. in 15 minutes.

Humble Oil & Refining Co.'s No. 131 Crim, total depth 3,714 feet, initial production 115 bbls. per hour; No. 30-A Laird, top pay 3,662, total depth 3,722 feet, initial production 51 bbls. per hour; No. 10-A Saxton, top pay 3,737 feet, total depth 3,772 feet, initial production 126 bbls. per hour.

Magnolia Petroleum Co.'s No. 14 Moore, top pay 3,656 feet, total depth 3,667 feet, initial production 25 bbls. in 10 minutes.

Navarro Oil Co.'s No. 3 Hineman, total depth 3,647 feet, initial production 140 bbls. per hour.

Tide Water Oil Co.'s No. 12 Moore, total depth 3,670 feet, initial production 100 bbls. per hour.

Uscan Oil Co.'s No. 2 Morse, top pay 3,567 feet, total depth 3,645 feet, initial production 40 bbls. in 30 minutes.

Atlantic Oil Producing Co.'s No. 10-BD Strickland, top pay 3,620 feet, total depth 3,680 feet, initial production 9 bbls. per hour.

Butler-Calhoun Oil Co.'s No. 4 Cox, top pay 3,580 feet, total depth 3,700 feet, initial production 20 bbls. per hour.

Darnell and others' No. 2 Moore, top pay 3,578 feet, total depth 3,650 feet, initial production 24 bbls. per hour.

Fisher's No. 2-B Wilson, top pay 3,722 feet, total depth 3,802 feet, initial production 75 bbls. per hour.

Gant-Garvin & Wegner's No. 16 Moore Estate, total depth 3,640 feet, initial production 10 bbls. per hour, pumping.

Gulf Production Co.'s No. 10 Maxwell, total depth 3,732 feet, initial production 55 bbls. per hour through three-quarters inch choke; No. 11 Shaw, top pay 3,738 feet, total depth 3,741 feet, initial production 30 bbls. per hour through three-quarters inch choke.

H.B.W. Oil Co.'s No. 6 Redwine, top pay 3,505 feet, total depth 3,570 feet, initial production 20 bbls. per hour, pumping.

Humble Oil & Refining Co.'s No. 47-A Kangerga, top pay 3,678 feet, total depth 3,719 feet, initial production 67 bbls. per hour; No. 35 Plowman, total depth 3,715 feet, initial production 96 bbls. per hour; No. 7 Shaw, total depth 3,722 feet, initial production 72 bbls. per hour through 1-inch choke.

Hunt Production Co.'s No. 4 Dickerson, total depth 3,715 feet, initial production 22 bbls. per hour, pumping.

Jim McMurrey's No. 1 Pinkston, top pay 3,630 feet, total depth 3,652 feet, initial production 60 bbls. per hour.

Magnolia Petroleum Co.'s No. 9 Grisson, total depth 3,724 feet, initial production 19 bbls. in 15 minutes.

Marathon Oil Co.'s No. 6 Griffin, top pay 3,638 feet, total depth 3,728 feet, initial production 9 bbls. per hour, swabbing.

Octo Oil Co.'s No. 3 Tipps, top pay 3,532 feet, total depth 3,590 feet, initial production 20 bbls. per hour, pumping.

Regent Oil Co.'s No. 2-A Harmon, top pay 3,730 feet, total depth 3,790 feet, initial production 75 bbls. per hour.

Saco Oil Co.'s No. 1-E Alford, total depth 3,635 feet, initial production 10 bbls. per hour, swabbing.

Sinclair Prairie Oil Co.'s No. 6 McCord, total depth 3,670 feet, initial production 7 bbls. in 15 minutes.

Stanolind Oil & Gas Co.'s No. 3 Woodley, total depth 3,580 feet, initial production 20 bbls. in four hours through three-quarters inch choke.

Tex-Jersey Oil Co.'s No. 5-A Keeling, top pay 3,756 feet, total depth 3,800 feet, initial production 60 bbls. per hour.

Wainwright-West's No. 2 Pinkston, top pay 3,605 feet, total depth 3,664 feet, initial production 19 bbls. per hour.

Ward Oil Co.'s No. 10 Giles, total depth 3,700 feet, initial production 54 bbls. per hour.

Smith County

Genecov-Roosth's No. 2 Bateman, total depth 3,798 feet, initial production 15 bbls. per hour.

Tex-Gulf Oil Co.'s No. 1 Hodnett-Melton, total depth 3,719 feet, initial production 20 bbls. in 20 minutes.

L. A. McMillan's No. 1 Denton, dry and abandoned 3,732 feet.

Perry and others' No. 2 Cook, top pay 3,741 feet, total depth 3,743 feet, initial production 80 bbls. per hour.

Texas Co.'s No. 13 Blackwell, top pay 3,711 feet, total depth 3,733 feet, initial production 31 bbls. in 30 minutes.

Upshur County

Arkansas Fuel Oil Co.'s No. 4 Victory, top pay 3,618 feet, total depth 3,646 feet, initial production 90 bbls. per hour.

Gulf Production Co.'s No. 4 Ray, total depth 3,624 feet, initial production 5 bbls. per hour by heads.

Humble Oil & Refining Co.'s No. 28 Smith, total depth 3,654 feet, initial production 86 bbls. per hour.

Murphy and others' No. 3 Moore, top pay 3,720 feet, total depth 3,736 feet, initial production 20 bbls. per hour.

Anderson County

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 10 Edens, top pay 4,027 feet, total depth 4,050 feet, initial production 60 bbls. in 12 hours through one-eighth inch choke; No. 13-A Wills, total depth 4,079 feet, initial production 100 bbls. in 18 hours through one-eighth inch choke.

Freestone County

Dodwell and others' No. 1 Pasadena Co., dry and abandoned 4,515 feet.

Henderson County

Cosden Oil Co.'s No. 1 Hurt and Miller, dry and abandoned 5,377 feet.

Navarro County

Syam Oil Co.'s No. 1 Ray, dry and abandoned 4,022 feet.

Red River County

Abercrombie and Harrison's No. 1 Watson, dry and abandoned 1,100 feet.

Van Zandt County

Florence Oil Co.'s No. 1 Sanger Brothers, dry and abandoned 3,055 feet.

West Texas Fields

(Continued from Page 43)

ing. Stanolind Oil & Gas Co.'s No. 2 Saunders, top pay 2,940 feet, total depth 3,040 feet, shot with 320 quarts from 2,915-3,040 feet, initial production 85 bbls. per day, pumping. Sun Oil Co.'s No. 5 Combs-Worley, top pay 2,930 feet, total depth 2,975 feet, initial production 73 bbls. per day, pumping.

Hutchinson County

Gulf Production Co.'s No. 49 Dial, top pay 2,955 feet, total depth 3,040 feet, shot with 190 quarts from 2,955-3,035 feet, initial production 900 feet of oil in hole, no gauge.

Moore County

Phillips Petroleum Co.'s No. 1 Flynn, gas pay 2,870 feet, total depth 3,309 feet, plugged back to 3,125 feet, shot with 30 quarts from 3,092-3,124 feet, initial production 44,800,000 feet of gas.

Wheeler County

Bell Oil & Gas Co.'s No. 1 Plummer, top pay 2,472 feet, total depth 2,482 feet, initial production 205 bbls. Christie-Hickman's No. 5 D'Spain, top pay 2,340 feet, total depth 2,475 feet, initial production 1,043 bbls. Magnolia Petroleum Co.'s No. 2 Koons, top pay 2,361 feet, total depth 2,387 feet, initial production 33 bbls. Phillips Petroleum Co.'s No. 3 Lela, top pay 2,469 feet, total depth 2,503 feet, initial production 177 bbls.

WEST TEXAS COMPLETIONS

Fisher County

Merry Brothers and Perini's No. 1 Dean, dry and abandoned 3,204 feet.

Jones County

Choate, McCamey and others' No. 1 Faver, dry and abandoned 2,016 feet. Texas Inland Oil Co.s' No. 1 Boaz, dry and abandoned 2,561 feet.

Pecos County

Stanolind Oil & Gas Co.'s No. 3-C Tippett, dry and abandoned 317 feet. Cardinal Oil Co.'s No. 23-E Tippett, total depth 495 feet, initial production 186 bbls., pumping; No. 24-E Tippett, total depth 1,354 feet, initial production 25 bbls., pumping.

Runnels County

Hall Oil Co.'s No. 1 Brevard, top pay 2,485 feet, total depth 2,501 feet, initial production 350 bbls.

Sterling County

John I. Moore and others' No. 1 George McIntyre, dry and abandoned 2,677 feet, elevation 2,523 feet.

Upton County

Stanolind Oil & Gas Co.'s No. 34 Burleson, total depth 1,942 feet, initial production 265 bbls.

Ward County

Gulf Production Co.'s No. 34 Hutchings, top pay 2,592 feet, total depth 2,592 feet, shot with 146 quarts from 2,600-60 feet, with 80 quarts from 2,660-90 feet, and with 60 quarts from 2,730-50 feet, initial production 184 bbls.

Cole Committee Studies Panhandle Gas Problem

(Continued from Page 37)

the greatest in the world, might not be more than a year. He said 700,000,000 bbls. of oil would be lost in the ground. All of the witnesses disagreed that the thing should be corrected by taxation. In response to questions by the committee, Chase disclosed that stripping permits involving blowing gas into the air had been granted by the Texas Railroad Commission in certain other fields of Texas than the Panhandle, though such permits are in violation of the state law.

Only one member of the committee has expressed his personal feeling on the gas controversy. This was Congressman Pettengill, who at one stage said that he was becoming convinced that the energy represented by the gas was a common property in which everyone had an interest.

In answer to the argument of Mr. Marsh that the gas distributors should be forbidden to own gas lands and wells, Mr. Morgan said it would have been utterly impossible to have financed or built the lines if they had had to depend on an open market for a gas supply. In order to be assured of a gas supply the pipe line companies purchased leases on 800,000 acres of land at a cost of millions of dollars. He denied that the companies now operating have a monopoly and argued that Marsh and other critics of the pipe lines could have made the same use of the gas for light and fuel.

The State of Wisconsin, much of Michigan, including Detroit; the State of Tennessee and other regions are without gas and offer inviting fields for the extension of pipe lines.

Following the session at Dallas, the committee left for a trip through the Panhandle to gather information firsthand. W. G. Skelly, president; C. C. Herndon, general counsel, and H. M. Stalcup, vice president of the Skelly Oil Co., accompanied the party as far as the Schafer ranch, where they have headquarters for the western end of the field. Skelly said that the use of the gas for stripping three miles away has so reduced the pressure in his Schafer ranch wells that units that used to come in flowing in excess of 300 bbls. a day now produce only from 35 to 40 bbls.

Continue Efforts to End Price War in the East

(Continued from Page 27)

country in actual sales was small. The kerosene export market at the Gulf Coast is firm in line with domestic conditions.

No changes were reported for the week in industrial fuels, gas oils and bunker fuels. The demand for Diesel is running ahead of last year with the marine price $1.89 and 4½ to 4¾ cents in tank cars.

There were no additional reductions in prices for steam refined and bright stocks but the market tone continues weak. The demand for low cold neutrals is strong and prices firm in both domestic and export quotations. Wax prices are unchanged.

ROCKY MOUNTAIN RUNS

Daily average crude oil runs for the week ended November 24 follow:

WYOMING	
Salt Creek	18,090
Big Muddy	1,800
Badger Basin	40
Black Mountain	150
Byron	450
Dallas Derby	810
Dutton Creek	70
Elk Basin	450
Ferris	10
Frannie	2,090
Garland	290
Grass Creek	1,430
Greybull	10
Hamilton Dome	820
Hudson	300
LaBarge	1,440
Lance Creek	280
Lost Soldier	1,380
Mule Creek	shut in
Midway	70
Notches	shut in
Oregon Basin	3,380
Osage	720
Pilot Butte	shut in
Rex Lake	shut in
Rock River	1,480
South Casper	600
Poison Spider	200
Teapot	30
Total Wyoming	36,390
MONTANA	
Buckley-Border	250
Cat Creek	600
Cut Bank	4,100
Kevin-Sunburst	5,500
Lake Basin	40
Pondera	910
Total Montana	11,400
COLORADO	
Florence	170
Fort Collins and Wellington	460
Iles Dome	1,860
Moffat	400
Orchard	80
Rangely	90
Tow Creek	170
Total Colorado	3,230
NEW MEXICO	
Artesia	550
Cooper area	750
Empire area	100
Eunice area	3,170
Hobbs	33,090
Hogback	190
Hospah	shut in
Jal	3,090
Lea area	1,750
Jackson	1,500
Maljamar	370
Rattlesnake	740
Table Mesa	90
Total New Mexico	45,690
Total Rocky Mountain region	96,710

West Texas Wildcats

(Continued from Page 43)

2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 410 ft.

Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 31, Blk. 97, P.S.L. Sur.
Drlg. 2,115 ft.

Wood et al's No. 1 Hall, 250 ft. from S and 85 ft. from E, Sec. 11, Blk. 54½, 16 miles N of Van Horn, P.S.L. Sur.
S.D. 246 ft.

DAWSON COUNTY

Ray Albaugh et al's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
S.D. 3,300 ft.

ECTOR COUNTY

Black et al's No. 1 Connell, 330 ft. from S and 2,310 ft. from W, Sec. 1, Blk. B-16, P.S.L. Sur.
Pulling csg.; T.D. 3,287 ft.

Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 25, Blk. 43, Twp. 2s, T.&P. Sur.
Drlg. 2,820 ft.

Landreth Prod. Co.'s No. 1 Johnson, 440 ft. from N and W, Sec. 47, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. 1,825 ft.

Landreth Prod. Co.'s No. 1 Clarence Scherbauer, 660 ft. from S and E. lines of Sec. 20, Blk. 44, Twp. 1n, T.&P. Sur.
P.B. 4,145 ft.; testing.

Shell Pet. Corp.'s No. 1 Connell, 1,980 ft. from N and 660 ft. from E, Sec. 12, Blk. B-16, P.S.L. Sur.
Drlg. 500 ft.

Stanolind Oil & Gas Co.'s No. 8 J. M. Cowden, 440 ft. from S line and 440 ft. from W line, Sec. 34, Blk. 43, Twp. 1n, S.D. 280 ft.

Sunray & Llano's No. 2 Jones, 2,310 ft. from N and E. Sec. 6, Blk. 44, Twp. 3s.
Drlg. 2,232 ft.

EDWARDS COUNTY

Harry Adams' No. 1 Holman, 1,650 ft. from N and 330 ft. from E, Sec. 22, C.C.S.D. &R.G.N.G. Sur.
Show oil 520-35 ft.; T.D. 602 ft.; will probably shoot.

EL PASO COUNTY

Moss Oil Co.'s No. 1 Coronado Valley
S.D. 1,415 ft.

FISHER COUNTY

Merry Bros. and Perrini's No. 1 Howard, 1,320 ft. from N and 660 ft. from E, Sec. 180, Blk. 2, H.&T.C. Sur.
Set 12¼-in. csg. 725 ft.

Roeser & Pendleton's No. 2 Hill, 2,310 ft. from N and 330 ft. from E, Sec. 203, B.B.B.&C. Sur.
Drlg. 970 ft.

Southern Oil Co.'s No. 2 King, 330 ft. from S and W, Sec. 193, Blk. 1.
Rig.

Texas Co.'s No. 1 First National Bank of Rotan, 330 ft. N and E of the NW cor. of Sec. 210, B.B.B.&C. Sur.
T.D. 3,244 ft.; P.B. 3,226 ft.; acidized; now testing.

GLASSCOCK COUNTY

Currie et al's No. 1 Currie, 330 ft. from S and W, Sec. 10, Blk. 35, Twp. 4s, T.&P. Sur.
Material.

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2s, T.&P. Sur.
S.D. 7,310 ft.

World Oil Co.'s No. 3-C McDowell, 2,310 ft. from N and W, Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur.
Drlg. 1,315 ft.

HOWARD COUNTY

F. H. E. Oil Co.'s No. 2 Dodge, 330 ft. from N and 990 ft. from E, Sec. 15, Blk. 30, Twp. 1s, T.&P. Sur.
S.D. 1,905 ft.

Iron Mountain Oil Co.'s No. 1 Read, 330 ft. from E line, 330 ft. from S line, Sec. 44, Blk. 30, Twp. 1n, T.&P. Sur.
T.D. 2,760 ft.; set csg.; T.P. 2,433 ft.

Mixon et al's No. 1 Capps & Lucas, 2,310 ft. from S and 330 ft. from W, Sec. 17, Blk. 29, Twp. 1n, T.&P. Sur.
Drlg. 2,575 ft.

Siegel's No. 1 Foster, 990 ft. from S and 330 ft. from W. Sec. 43, Blk. 29.
Cleaning out after plugging back.

IRION COUNTY

Melrose Oil Co.'s No. 1 J. D. Sugg, 1,700 ft. from the E line and 308 ft. from the S line of Sec. 25, Blk. 2, H.&T.C. Sur.
S.D. 270 ft.

JEFF DAVIS COUNTY

C. M. Joiner's No. 1 Jones & Coffield, 770 ft. from N and 1,322 ft. from E, Sec. 3, Blk. 3, H.&T.C. Sur.
Standard tools.

JONES COUNTY

Campbell et al's No. 1 Enevill, 1,400 ft. from N and 270 ft. from W, Sec. 2, M.E.&P. Sur., ½ mile S of Anson.
Drlg. 1,210 ft.

Byram et al's No. 1 McWright, 300 ft. from N and 660 ft. from W of SW Sec. 5, Blk. 15, Twp. 1s, T.&P. Sur.
Machine.

Capitan Oil Co.'s No. 1 Geiger, 220 ft. from S and E of 60-acre tract, S. Andrews Sur.
Drlg. 1,605 ft.

Condor Pet. Co.'s No. 2 Holt, 660 ft. from S and 330 ft. from E, Sec. 4, Blk. 20.
Drlg. 925 ft.

Hammer & Beam's No. 1 Sheppard, 1,308 ft. from N and 300 ft. from E of 180-acre tract, D. Minter Subdv. No. 53.
Set pipe 1,678 ft.

Dr. C. E. Johnson's No. 1 Young, 1,300 ft. from N and 750 ft. from W of SE 200 acres of B. Travenio Sur.
Location.

Nugent Oil Co.'s No. 1 Wilson, 3,000 ft. from N and 300 ft. from E, Sec. 1, Blk. 2, T.&N.O. Sur.
Drlg. 986 ft.

Ray & Staniforth's No. 1 Stewart, 660 ft. E of Texas Inland Oil Co.'s No. 1 Inland.
Drlg. 1,915 ft.

Richards et al's No. 1 Ransom, 300 ft. from N and E. Sec. 344, B. M. Clopton Sur.
S.D. 750 ft.

Southern Oil Co.'s No. 3 Cade, 330 ft. S and 990 ft. E in Sec. 17, Blk. 19, T.P. Sur.
S.D. 2,400 ft.

LOVING COUNTY

California Co.'s No. 5-A Allen, 1,320 ft. from NE and 2,310 ft. from SE Sec. 90, Blk. 1.
Drlg. 250 ft.

D. L. Evans No. 1 W. D. Johnson, 2,310 ft from N and 1,650 ft. from W. Sec. 13, Blk. 57, Twp. 1, T.&P. Sur
S.D. 2,030 ft.; 1 bbl. sulphur water.

PECOS COUNTY

Gulf Prod. Co.'s No. 3 White & Baker, SE cor. of N half Sec. 4, Block 207, T.C. Ry. Sur.
Drlg. 829 ft.

C. S. Messenger's No. 2 Rand Jones, 1,935 ft. from S line and 1,013 ft. from W line of Sec. 5, Blk. 9, H.&G.N. Sur.
Drlg. 2,398 ft.

Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
S.D. 1,301 ft.

REAGAN COUNTY

S. P. Kirschner and White's No. 1 W. A. White and McIntosh, 720 ft. from E and 800 ft. from N of Sec. 1,223, E.L.R.R. Sur.
S.D. 3,165 ft.

Skelly Oil Co. et al's No. 1-D E. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 32, Blk. 8, University Land Sur.
Drlg. 3,165 ft.

REEVES COUNTY

J. E. Cunningham's No. 1 Altman, 2,310 ft from N line and 1,980 ft. from E line of Sec. 1, C. C. Wyatt Sur.
Drlg. 1,970 ft.

Herbert Oil Co.'s No. 1 Williams & Walker, 5,280 ft. from S and 1,320 ft. from E, Sec. 17, Blk. 6, H.&G.N. Sur.
Cellar.

RUNNELS COUNTY

G. T. Hudson's No. 1 Lange, 1,701 ft. from S and 150 ft. from W of 962 acre in A. Williams Sur.
Location.

Meirose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 3,475 ft. from W line of survey, Willett Holmes Sur. No. 150.
Drlg. 1,672 ft.

R. Wells' No. 1 James, 396 from N and 330 ft. from E of James tract in Sec. 16, D Diss Sur.
S.D. 620 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur.
S.D. 5,866 ft.

Humble Oil & Ref. Co.'s No. 1 Ike Honig 2,640 ft. from N line and 2,650 ft. from E line of Sec. 38, Blk. M, G.H.&S.A. Sur.
Fishing pipe 5,923 ft.

W. C. Proctor et al's No. 1 Judkins & Spencer, 1,320 ft. from S and W of W. W. Russell grant.
Rig.

SCURRY COUNTY

Coffield & Guthrie's No. 1 Holliday, 2,310 ft. from N and 330 ft. from W, Sec. 130, Blk. 97, H.&T.C. Sur.
Drlg. 1,220 ft.

STERLING COUNTY

Merry Bros. & Perrini's No. 1 Standsberry, 1,980 ft. from N and E Sec. 20, Blk. 30, W.&N.W. Sur.
Location.

STONEWALL COUNTY

Merry Bros. and Perrini et al's No. 1 Williams, C SW of SW, Sec. 6, Blk. C, A.B. &M. Sur.
T.D. 2,687 ft.; to lift pipe.

SUTTON COUNTY

Teas et al's No. 1 Mower, 1,980 ft. from S and W of Sec. 39, Blk. 5, T.W.&N.G. Sur.
Drlg. 489 ft.

TAYLOR COUNTY

Dunnigan Bros. et al's No. 2 Hunter, 850 ft. from S and 350 ft. from W of Subdiv. No. 14, Willis Sur.
Drlg. 2,630 ft.; show oil 2,485 ft.

TERRELL COUNTY

W. A. Sudderth's No. 1 Phelps, 2,157 ft. from N line and 2,482 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur.
T.D. 5,635 ft.; C.O.

UPTON COUNTY

Gulf Prod. Co.'s No. 12 Crier-McElroy, 1,320 ft. from N and E Sec. 198, Blk. F.
Drlg. 2,330 ft.

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
T.D. 10,978 ft.; swabbed 105 bbls. salt water and est. 3 bbls. oil in 24 hrs.; to deepen.

King Mountain Pet. Co.'s No. 1 Sherk, 330 ft. from S and W, Sec. 29, Blk. 1, M.K.&T. Sur.
Rig.

Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur.
S.D. 2,040 ft.

WARD COUNTY

Atlantic Oil Prod. Co.'s No. 1 Miller, 463 ft. from NW and 504 ft. from NE Sec. 3, J. C. Russell Sur.
Drlg. 2,325 ft.

Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 27, Blk. 34, H.&T.C. Sur.
S.D. 1,700 ft.

Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line. Sec. 11, H.&T.C. Sur.
Fishing 500 ft.

Cook Drlg. Co.'s No. 1 Wood, 330 ft. from NW and SW, Sec. 5, W. F. Stewart Sur. T.D. 2,548 ft.; testing.

Plains Prod. Co.'s No. 1 J. J. McGregor, 660 ft. from SE line, 660 ft. from SW line Sec. 169, Blk. 34, H.&T.C. Sur.
Drlg. 4,683 ft.

Pentellio & Caprito's No. 1 Purcell, 330 ft from NE and 990 ft. from NW, Sec. 17 Blk. 34 H.&T.C. Sur.
S.D. 2,240 ft.

Rector Oil Co.'s No. 1 Monroe, 660 ft. from SE and NE, Sec. 2, Blk. 1, W.&N.W. Sur. Location.

Sageland Oil Corp.'s No. 2 Pure-Bennett 1,650 ft. from NW and 2,310 ft. from SW Sec. 16, Blk. 34, H.&T.C. Sur.
Spudded and S.D.

Tex-Mex Pet. Corp.'s No. 1 Pure-Bray, 1,980 ft. from NE and 660 ft. from NW, Sec. 6, Blk. 5, H.&T.C. Sur.
Drlg. 1,335 ft.

West Texas O. & R. Co.'s No. 1-C University, 330 ft. from N and E, Sec. 6, Blk. 16. Location.

WINKLER COUNTY

Gulf Prod. Co.'s No. 1 Wight, 320 ft. from S and E, Sec. 20, Blk. 40, P.S.L. Sur. Location.

Harry Adams' No. 2 Scarborough, 990 ft from N line and 990 ft. from W line, Sec. 2, Blk. 77, P.S.L. Sur.
Location.

Jeffries et al's No. 1 Brown & Altman 2,310 ft. from S and W, Sec. 6, Blk. B-5 Set csg. 2,375 ft.

Dr Jeffries et al's No. 1 Underwood, 330 ft. from S and 2,310 ft. from E, Sec. 26, Blk. B-3.
To deepen from 400 ft.

J. C. Maxwell's No. 1 Clapp, 2,310 ft. from N and 330 ft. from E, Sec. 27, Blk. 26, P.S.L. Sur.
Drlg. 2,210 ft.

Magnolia Pet. Co.'s No. 4 Walton, 330 ft from S and W, Sec. 1, Blk. 26.
Set csg. 2,507 ft.

R. S. Mathews et al's No. 1 Evans, 1,320 ft from N line and 1,320 ft. from W line Sec. 46, Blk. 75, P.S.L. Sur.
S.D. 110 ft.

Mid-Continent Pet. Corp.'s No. 1 Howe, 2,310 ft. from N and 330 ft. from W, Sec. 12, Blk. 26, P.S.L. Sur.
Elev. 2,873 ft.; set csg. 603 ft.

Richardson's No. 1 Walton, 1,010 ft. from S and 330 ft. from W, Sec. 1, Blk. B-3. Rig.

Sid Richardson's No. 1 Hill, 1,980 ft. from E line, 660 ft. from S line, Sec. 18, Blk. B-11, P.S.L. Sur.
T.D. 3,490 ft.; makes 2 heads a day.

Sayre Oil Co.'s No. 1 Leck, 330 ft. from S and E, Sec. 2, Blk. 26, P.S.L. Sur.
Drlg. 823 ft.

Sayre Oil Co.'s No. 2 Howe, 330 ft. from N and W, Sec. 12, Blk. 26, P.C.L. Sur. Location.

Skelly Oil Co.'s No. 2 Halley, 1,320 ft. from N and 2,300 ft. from E, Sec. 25, Blk. B-11, P.S.L. Sur.
Derrick.

Sinclair Prairie Oil Co.'s No. 1 Cummings, 2,310 ft. from N and 330 ft. from E, Sec. 11, Blk. 26, P.S.L. Sur.
S.D. 1,320 ft.

East Central Texas Wildcats

(Continued from Page 44)

HUNT COUNTY

Cauble & Thompson's No. 1 Reed, 330 ft. N of northerly NE cor. of C. B. Payne Sur., but in F. Thweatt Sur., 3 miles SE of Greenville.
Derrick.

G. S. & S. Co.'s No. 1 O. Popper.
S.D. 2,385 ft.

J. C. Hall's No. 1 Parrish, C of 100-ac. tract, N. Delaney Sur., 5 miles N of Lone Oak.
Derrick.

Harrison-Abercrombie's No. 1 Morrison, 1,757 ft. from E and 470 ft. from S lines, A. Lawson Sur., 5 miles SW of Greenville.
Drlg. 927 ft.

L. G. Priest's No. 1 Amelia Barnett, 1,075 ft. from W line, 320 ft. from S line of J. C. Hamer Sur.
Drlg. 3,032 ft.

Winn's No. 1 J. R. Phillips, 320 ft. from S line and 960 ft. from W line of tract and survey, W. J. James Sur.
S.D. 40 ft.

KAUFMAN COUNTY

W. J. Lewis et al's No. 1 D. Clark, 420 ft. from S line and 600 ft. from E line of Sur., 6½ miles NW of Elmo.
S.D. 900 ft.

L. P. Kean's No. 1 J. B. Hunter, R. Sowell Sur., 300 ft. from SW and 150 ft. from SE of 50-ac. tract, 4 miles S of Terrell.
Fishing 1,630 ft.

LEON COUNTY

Normangee Corp.'s No. 1 B. H. Henry, 1,350 ft. from E line and 2,700 ft. from N line of survey, Robert Rogers League, 2½ miles NE of Normangee.
Fishing 2,740 ft.

LIMESTONE COUNTY

Doughtry et al's No. 1 S. Welch, 150 ft. from NW and 900 ft. from NE of 77.64-acre tract in A. Varilla Sur., 4 miles W of Groesbeck.
Rigged up.

Schultz' No. 1 Roy Ward, NE cor. of 73.3-ac. tract, 5 miles W of Mexia Field, Harrison York Sur.
Derrick.

Stewart Bros. and Watson's No. 1 T. N. Wilson, 1,400 ft. W and 330 ft. N of 236.1-ac. tract in Alex W. Patton Sur., 1½ mi. SE of Prairie Hill.
Drlg. 275 ft.

V. V. Waite's No. 1 Barrow, 650 ft. from S and 950 ft. from E line of 320-ac. tract, W. G. McKenzie Sur., 3½ miles NW of Thornton.
Pits.

MORRIS COUNTY

Fleetborn Oil Corp.'s No. 1 Hammond, 1,500 ft. S and 1,750 ft. W of Thos. Burford Sur., 8 miles SE of Omaha.
Drlg. 3,675 ft.

NACOGDOCHES COUNTY

Murray Oil Co.'s No. 1 C. B. Watkins, 150 ft. from N line and 330 ft. from NW lines of 160-ac. tract, 3 miles S of Caro, H. Y Bailey Sur
Fishing 3,925 ft.

Wells et al's No. 1 Z. Ramblin, 900 ft. N and 330 ft. W of SE cor. of tract and survey, J. Simpson Sur., 12 miles NE of Nacogdoches.
Rigged up.

NAVARRO COUNTY

Bennett Brothers' No. 1 T. E. Stewart, 150 ft. from NE line of lease, 10 miles SW of Corsicana, Wm. R. Bowen Sur.
S.D. 1,136 ft.

R. B. Cocding et al's No. 1 Lela Kelt, 450 ft. from S line and center of N and S lines of lease, 3 miles NE of Chatfield, C. B. Emmons Sur.
S.D. 1,340 ft.

W. J. Keeling et al's No. 1 J. F. Rushing 484 ft. from N line and 150 ft. from W line of 184-ac. tract, 6 miles SW of Richardson, Henry Ford Sur.
T.D. 2,880 ft.

McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-acre tract, 1 mile W of Dawson, William Moss Sur.
S.D. 625 ft.

RAINS COUNTY

Bryant & Spear's No. 1 Jones, 300 ft. from W and 150 ft. from N of 67-ac. tract, J. Compton Sur.
Coring 1,320 ft.

Wadley et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B.B.&C. Sur.
S.D. 4,632 ft.

RED RIVER COUNTY

Dinger's No. 1 W. T. Norris, 1,000 ft. from S and 1,900 ft. from W of 400-ac. tract, Jos. Guest Sur., 1 mile S of Detroit. Location.

RUSK COUNTY

Fair, et al's No. 1 J. W. Needham, 335 ft. from W line and 700 ft. from N line of tract and survey, 10 mi. S of Henderson, on 135-ac. tract, J. W. Chambers Sur.
Coring 4,030 ft.

Headwater Oil Co.'s No. 1 F. L. Gary, 375 ft. N of S line and center of E and W lines of 200-ac. tract, 8 miles E and S of Henderson, Jose A. Mora Sur.
S.D. 3,197 ft.

George Hudson et al's No. 3 Jeff Phillips, 150 ft. from N line of survey and 700 ft. from W line of 100-ac. tract, 4 miles SE of Minden, N. Villaria Sur.
S.D. 3,675 ft.

Ben Lamb's No. 1 H. Leath, 330 ft. out of NW cor. of 185-acre tract in L. J. Dooley Coring 2,510 ft.

SMITH COUNTY

Deck et al's No. 1 Dendall, 330 ft. from S and W of 55-ac. tract, J. Williams Sur., 3 miles E of Van Field.
Spudded and S.D.

Fair et al's No. 1 Rushing, 1,000 ft. SE of old hole, 1¼ miles SE of Whitehouse. Top Woodbine 4,296 ft.; S.D. 4,473 ft.

Nenny et al's No. 1 J. I. Coulter, 1,217 ft. E of W line and 865 ft. N of S line of 100-ac. tract, Maria Gestrada Sur., 2 mi. NW of Sand Flat.
Top Austin 3,852-4,070 ft.; drlg. 4,305 ft.

Paul S. Williams et al's No. 1 Dean, 330 ft. E and 730 ft. N of 100-acre tract in Denson Moore Sur., 1 miles NE of Bullard.
Elev. 485 ft.; S.D. 70 ft.

UPSHUR COUNTY

Wadley et al's No. 2 Shuttlesworth, 45 ft. from SE of No. 1 dry hole or 285 ft. from S and E lines, J. Dunn Sur.
Drlg. 2,792 ft.

VAN ZANDT COUNTY

Pet. P. L. & Storage Co.'s No. 4 Mrs. S. McGee, 450 ft. S of N line and 155 ft. E of W line of 53.4-ac. tract, Blk. 20, Elevation 441 ft.
S.D. 515 ft.

Pete Corley et al's No. 1 Slaton, 160 ft. from W and 660 ft. from N lines of William Carlton Sur., 3 miles SE of Ben Wheeler.
Rig.

Florence Oil Co.'s No. 2 Sanger, 316 ft. W of SE cor. and 151 ft. S of S line of Pure-Blackstock lease, John Walling Sur
Rig.

Gillum and Allen et al's No. 1 A. T. Bass, 150 ft. from W line and 150 ft. from N line of 10-ac. tract, William Hart Sur.
S.D. 1,700 ft.

Green and Winn's No. 1 Eaton, 330 ft. out of most westerly SW cor. of J. Wilson Sur., 2 miles SE of Martin.
Location.

Rogers & Schwartz's No. 1 McKinsey, C of N and S lines and 150 ft. from W of 186-ac. tract, Wm. Daniels Sur.
S.D. 1,257 ft.

Martin & Evans' No. 1 Bryant, 483 ft. N of same operators' dry hole, Nacogdoches County School Land Sur.
Rigged up.

Miller et al's No. 1 J. M. Palmer, 150 ft. from S and E lines of 69-ac. tract, Nacogdoches County School Land Sur.
S.D. 920 ft.

Overton Ref. Co.'s No. 4 Carter, 300 ft. N of No. 3 Carter, 1,327 ft. S and 142 ft. W of Carter 171-ac. tract.
Drlg. 2,410 ft.

Peden and Olson's No. 1 J. M. Palmer, 300 S of No. 2 and 140 ft. from W line of tract, J. Goodman Sur.
T.D. 2,188 ft.

M. Rouch et al's No. 1 Bearden & Palmer, 150 ft. out of SE cor. of 61-ac. tract, Nacogdoches C.S.L.
S.D. 1,227 ft.

Southwest Texas Wildcats

(Continued from Page 42)

Will Olhausen's No. 1-B Turney, 660 ft. from W line, 1,622 ft. from N line of Sec. 176, C.C.S.D.&R.G.N.G. Sur.
Fishing 880 ft.

H. H. Sides' No. 1 Turney, C.C.S.D.&R.G.N.G. Sur. No. 164, 1,320 ft. N line and W line of survey.
Standing 1,010 ft.

Harry Adams' No. 1 Holman, 1,650 ft. N line, 330 ft. from E line, Sec. 32, C.C.S.D.&R.G.N.G. Sur.
T.D. 583 ft.; in sand at 575-83 ft.; showing for about 1 bbl. daily of dead oil; no report.

FRIO COUNTY

Amerada Pet. Co.'s No. 2 Halff & Oppenheimer, begin at most easterly N cor. of John E. Gibson Sur. No. 16, thence SE along NE line of Sur. 2,100 ft., thence SW at right angles 300 ft. (4 mi. SW of Pearsall).
T.D. 10,050 ft.; drill pipe stuck.

GILLESPIE COUNTY

Ed L. Nixon's No. 3 Lindig, 12,694 ft. S line, 1,333 ft. W line, Maria Josepha Guerra Sur No. 41, or 6 ft. S of No. 1.
Standing 515 ft.

GOLIAD COUNTY

Magnolia Pet. Co.'s No. 1 Albrecht, 660 ft. N line, 330 ft. SW line of J. P. Reid Sur.
Ready to spud.

Oceanic Pet. Co.'s No. 1 Fromme, 1,500 ft. S line, 1,200 ft. W line of 62-ac. tract in P. D. Dexter Sur., 10 miles N of Goliad.
T.D. 2,635 ft.; to set csg.; standing.

GUADALUPE COUNTY

J. W. Burrows' No. 1 Beuhring, 1,000 ft. S line, 750 ft. W line of Jos. Clements Sur., SW Darst Creek Field.
Location.

Diamond Half Oil Co.'s No. 1 Wm. Maiserhofer, 506 ft. from E line and 1,500 ft. from N line of 51.85-ac. tract in L. H. Peters Sur.
Dry and abd. 2,128 ft.

L. E. Trout's No. 1 McKee, Green DeWitt Sur., SW Darst Creek.
S.D. 1,200 ft.

H. H. Weinert et al's No. 1 Sylle Schmidt, Wakefield Sur., E of Kingsbury Field.
Location.

HIDALGO COUNTY

Danvers-Harrison et al's No. 1 Guerra, 330 ft. out of SW cor. of 40-ac. tract, Blk. 12, Porcion 41.
T.D. 2,750 ft.; killed well and preparing to deepen.

Davis & Harrison's No. 1 Lula George, 303 ft. from S and 700 ft. from E lines of Tract 13, Porcion 41, Ancient Jurisdiction of Reynosa.
T.D. 4,135 ft.; set perforated liner in effort to get gas or oil in sand at 4,109-35 ft.

John Deering et al's No. 1 John C. Engleman, 400 ft. S and W lines, Lot 3, Blk. 79, Mestenas tract.
Drlg. 5,850 ft.; no report.

Downey & Morton's No. 1 Doskam, 450 ft. from E line, 55 ft. from S line of Blk. 34, Por. 45.
T.D. 2,000 ft.; S.D. for new boilers.

Jenkins & Secton's No. 1 John D. Puckett, 330 ft. N and W lines, Share 96, San Salvador del Tule grant.
Derrick.

Union Sulphur Co.'s No. 3 American Rio Grande L. & I. Co., 400 ft. from S and E lines of tract, Blk. 86, North Capisallo district.
No report.

JIM HOGG COUNTY

John D. Norwood's No. 1 C. W. Hellen, 330 ft. N and W lines, Sur. 48.
Drlg. 1,340 ft.

J. M. Shugart's No. 1 R. Holbien, 100 ft. from N line, 330 ft. from S line of Blk. 55, Sur. 17 of Holbien Subd., of Las Animas grant.
Drlg. 505 ft.

Sun Oil Co.'s No. 1 A. L. East, 660 ft. from N and E lines of Blk. 4, Sur. 33.
Cmtd. csg. 200 ft.; W.O.C.

JIM WELLS COUNTY

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 21½ miles W from Alfred.
No report.

Smith & Storey's No. 1 Martha E. Ellworth, 330 ft. N and W from SE cor. of W half of W 426 acres of Stanley Welch Sur.
Drlg. 5,360 ft.; no report.

KARNES COUNTY

F. P. Hynes et al's No. 1 Swiercy, 2,650 ft. from NW line, 500 ft. from SW line of 100-ac. tract in Gasper Flores Sur.
Abd. 2,503 ft.

R. E. Cezeaux et al's No. 1 Tom Campbell, 330 ft. S and E cor. of farm and survey, J. R. Backer Sur., 12½ miles SW of Falls City.
S.D. 1,264 ft.

Marrs et al's No. 1 M. E. Choate, 330 ft. out of NW cor. of 128-ac. tract, Johnson Sur.; elev. 352 ft.
T.D. 3,321 ft.; comp. a gas well with 325 lbs. pressure; 5/16-in. choke.

Pacific Gas & Fuel Co.'s No. 2 Choate, near No. 1.
Location.

KENDALL COUNTY

Walter Bradley's No. 1 Warner, John F. Torrey Sur.
S.D. 919 ft.

W. R. Shanklin's No. 1 Seidenstick, 1,835 ft. from most easterly E line, 100 ft. from most northerly S line of Antonio Rodeguez Chacon Sur. 257.
S.D. 400 ft.

KERR COUNTY

Edmiston Oil Corp.'s No. 1 Whitworth, 1,160 ft. from S line and 1,333 ft. from E line of Sec. 1,439 of the H.E.&W.T. Sur.
S.D. 675 ft.

Herbert Oil Co.'s No. 1 J. D. Witt, 13,200 ft. from N line, 1,200 ft. from W line of Sec. 1,922, Hamilton Sur.
S.D. 1,896 ft.

Jeff Love and Eastland Oil Co.'s No. 5-B Jeff Love, 1,500 ft. SE of No. 1 and 1,580 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
T.D. 3,465 ft.; waiting on orders.

J. F. Morrissey et al's No. 1 F. A. Karge, 1,400 ft. from S line and 600 ft. from E line of survey, Sec. 1, B.S.&F. Sur.
Drlg. 1,735 ft.

LA SALLE COUNTY

Standard Oil Co. of D. C.'s No. 1 J. M. Martin, 300 ft. S and W lines of 643-ac. farm in Sur. 683.
Coring 2,170 ft (corrected).

LEE COUNTY

Jas. E. Pederson's No. 1 Turner, David Hudson Sur.
Milling out csg.

LIVE OAK COUNTY

Coquat's No. 1 Wade McNeil, 1½ miles NW McNeil discovery well.
Drlg. below surface csg.; no report.

W. H. Helmerich's No. 1 Cartwright, 660 ft. from W line, 330 ft. from S line of Lot 16, Seale, Morris & Seale Sur.
Coring 4,310 ft.

Henderson Coquat et al's No. 1 Robertson, Sec. 314.
Dry and abd. 4,785 ft.

Henderson Coquat et al's No. 1 Little, 1,320 ft. NE of S cor. of M. M. Shipp Sur. and 330 ft. N of S line.
Drlg. 3,050 ft.

MAVERICK COUNTY

Mike Chorgas et al's No. 1 Mathews, on edge of municipal airport at Eagle Pass.
Drlg. 225 ft.; no report.

McMULLEN COUNTY

Beer & Witherspoon's No. 2 Ezzell, 1,000 ft. W of No. 1, Fant & Fadden Sur.
Drlg. 467 ft.

H. K. Boysen's No. 1 Hagist, 990 ft. S, 330 ft. W of NE cor. Sec. 10, H.&T.C.R.Y. Sur.
T.D. 1,380 ft.; coring for lower Cole sand.

Byron Rife's No. 1 Edrington, 330 ft. from S and W lines of Sec. 79.
Drlg. 1,250 ft.

Circle W Oil Co.'s No. 1 Wheeler, NW cor. Sec. 44, of Two Rivers Ranch Subd.
Coring 1,165 ft.; no report.

Choate & Noble's No. 1 Miles, 330 ft. from S line, 2,750 ft. from E line of 1,250-ac. tract in Stephens Sur.
Location.

Howard's No. 1-A Claunch, 90 ft. E line, 700 ft. S line of tract in M. Healy Sur.
T.D. 780 ft.; comp. small gas well; 300 lbs. pressure.

Newton et al's No. 1 Murphy, SW cor. of Sur. 480, adjoining Hagist ranch.
Abd. 1,610 ft.

C. C. Shumway's No. 8 Shiner.
Rig up.

Charles Wuest's No. 1 Fisher, Roderick O'Boyle Sur.
Derrick.

Hy Yound's No. 1 Callihan, James Gardner Sur., NW cor. Blk. 4, Sec 6.
Derrick.

MEDINA COUNTY

C. M. Peacock's No. 1 Odem, 160 ft. from W line, 200 ft. from S line of Castro Sur. No. 173-174.
Location.

Scoggins & Sanders' No. 1 L. W. Burrell, 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. 395.
Drlg. 1,515 ft.; no report.

MILAM COUNTY

C. F. Drake et al's No. 1 Standard Coal Co., 970 ft. SW line, 1,700 ft. SE line of G. L. Johnson Sur.
Drlg. 650 ft.

Frank W. Keller, Inc.'s No. 1 A. L. Lucas, 1,980 ft. from N line, 400 ft. from E line of 178.5-ac. tract in J. Real Sur.
Location.

Second Natl. Bank's No. 1 B. P. Ward, 150 ft. SW line, 950 ft. SE line of 100-ac. tract, L. Taylor Sur.
S.D. 1,930 ft.

NUECES COUNTY

Buff Pet. Co.'s No. 1 Vincent Bluntzer, 660 ft. N line, 660 ft. E line of Share 7 of Bluntzer Subd.
Rigging.

Clymore Oil Co.'s No. 1 Palo Alto Farms, 2,640 ft. from N and E lines of Sec. 132 of Bishop Subd.
Derrick.

Texon Royalty Co.'s No. 1 Robert Driscoll, 330 ft. from N line, 5,697 ft. from W line of 880-ac. Driscoll tract and E of Simmons & Perry tract.
Derrick.

REAL COUNTY

M. J. Heartwell et al's No. 2 L. J. Haby, 694 ft. from W line and 2,163 ft. from S line of A.B.&M. Sur. No. 175.
T.D. 2,837 ft.; W.O.C.

SAN PATRICIO COUNTY

Allied Minerals' No. 1-A Ramsey, 466 ft. E, 330 ft. N of SW cor. of the North B. Giddings Sur. on a 1,000-ac. tract.
Sandy shale 2,462 ft.; moving in heavier rig; S.D.

Carpenter et al's No. 1 Sadler, Mud Flats area.
Standing 6,009 ft.

Lonnie Glasscock's No. 1 M. F. Timmons, 330 ft. out of SE cor. of Blk. 27, San Patricio townsite.
Drlg. 5,300 ft.; to make a D.S. test at 4,700 ft.; no report.

STARR COUNTY

Jules Alford's No. 1 A. Flores, 330 ft. from N and W lines of 10-ac. of E 20-ac. of NW 80-ac. of Tract 250, Por. 38, 8,500 ft. NW discovery well in Hidalgo County.
Derrick.

Conway & Emanuels' No. 1 S.C.C.C., 360 ft. W line, 330 ft. S line, Blk. 62, Jeffries Lambeth Div., Porcion 38-59.
Rigging up.

Conroe Drlg. Co.'s No. 1 Guerra, 330 ft. SE and NE line, Blk. 35, Por. 56.
Rigging up.

Cooper & Andrews' No. 1 J. M. Martinez, SW cor. Sec. 135.
Abd. location.

C. R. Borah's No. 1 A. Guerra, San Jose grant, 330 ft. from N and 150 ft. from E line of Sec. 6 (NE part of county).
Standing 2,520 ft.

Crawford et al's No. 1 Hicks et al, 150 ft. SE and NE line of NW, Perdernal grant.
Derrick.

Lester & Duffield's No. 1 Carruth, 3,690 ft. S line, 3,300 ft. W line of Share B-1, Porcion 91-92.
Derrick.

Merren, Johnson & Jeffries' No. 1 S.C.C.C., 660 ft. from N and W lines of Blk. 37, Por. 38-39.
Preparing to make D.S. test at 2,514 ft.

C. L. Smith et al's No. 1 J. M. Longfellow, 330 ft. out of NW cor. of Sur. No. 281.
Drlg. 2,800 ft.

Heep Oil Co.'s No. 1 Guerra, 330 ft. from NE and SE lines of Blk. 35, J. N. Crawford Subd., Porcion 56, Jurisdiction of Mier.
Rigging up.

Smith & Weston's No. 1 M. M. Garcia, Blk. 9, Sur. 908.
Moving in material.

Sun Oil Co.'s No. 1 Gonzales & Clark, 600 ft. out of NW cor. of NE Sec. 372, T.T. Ry. Sur. No. A-773.
Coring at 3,830 ft.

United Prod. Co.'s No. 1 Guerra, 36, 170 ft. from NE line, 1,521 ft. from NW line of Porcion 66.
Drlg. sandy shale 2,962 ft.

E. L. Younkin's No. 1 Kelsey Bass, 330 ft. from S line, 7 ft. from W line of Blk. 19, in Porcion 87.
Coring 2,572 ft.

TRAVIS COUNTY

Marts & Beavens' No. 1 Emil Bloomquist, 150 ft. from NW line and SW line of 99½-ac. tract in Peter C. Harrison Sur.
S.D. 1,300 ft.

Mimms, New & Anderson's No. 1 Bohm, 1,250 ft. SW along NW line of Bohm tract from N cor. and 150 ft. NW in S. Del Valle Sur.
Drlg. 515 ft.

Title et al's No. 1 Johnson, 330 ft. each way from cor. of 50-ac. tract in Kimbro area.
Drlg. with spudder 325 ft.

UVALDE COUNTY

Humble Oil & Ref. Co.'s No. 1 R. L. Anderson, 7,450 ft. SW of NE line and 9,100 ft. SE of NW line of J. J. Guerra Sur. (3 mi. NE of Uvalde).
T.D. 5,015 ft.; drill pipe stuck.

T. T. Word's No. 1-B Truelove, 45 ft. E of No. 1-A.
Drlg. 2,180 ft.

WEBB COUNTY

Detterhaim & Jones' No. 1 M. Jones, 600 ft. E line, 1,620 ft. S line of Sur. 1,640.
Drlg. 455 ft.; no report.

Payne et al's No. 1 Hoggterp, Blk. 6, Sur. 1,110, W of Oilton.
Location.

WILLACY COUNTY

W. W. Silk's No. 1 Stillman, Lot 16, Blk. 30, Santa Rosa Subd., Share 44.
Drlg. 2,000 ft.; no report.

WILLIAMSON COUNTY

Johnson & Ray's No. 1-A Mary Smith Oxford, 350 ft. S, 40 deg. E of No. 1, Williams Sur.
Drlg. 715 ft.; no report.

Mann & Roez et al's No. 1 F. Roez, John Bevil Sur. 56.
T.D. 1,025 ft.; C.O. caving hole.

T. J. McConnell's No. 1 J. R. Nazier, 150 ft. from S line and San Gabriel River and 150 ft. from E line of 124-ac. tract in Zarzo Sur.
Standing 948 ft.

J. Morgan Russell's No. 2 Nelson, 3,300 ft. from CEL of W. Donaho Sur. No. 117, 1,600 ft. from CSL.
Drlg. 375 ft.

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PIPE CORPORATION

NATIONAL STOCK YARDS (ST. CLAIR COUNTY), ILL.

(Directly across the Mississippi River from St. Louis)

Stalley & Caffy's No. 1 A. J. Nelson, 350 ft. from SE line and 150 ft. from NE line of Barney C. Love Sur.
T.D. 355 ft.; H.F.W.; no report.

WILSON COUNTY

Ray Oil Co.'s No. 1 J. M. McDaniel, 1,700 ft. from SW line, 350 ft. from NW line of 193.5-ac. tract in Concepcion Bostello Sur. No. 9.
Rigged up and S.D.

J. C. Yancey's No. 1 Lyssy, 300 ft. from SE and SW lines of lease in D. J. Holt Sur.
T.D. 1,600 ft.; S.D. in shale.

ZAPATA COUNTY

Danvers & Harrison's No. 1 M. J. Vela, 650 ft. NE line and 300 ft. NW line, or 3,140 ft. E line and 330 ft. N line of Por. 29, Blk. 7, Bela Subd.
T.D. 1,602 ft.; washing to bottom.

Merle Gunby's No. 3 Alice D. Haynes, 200 ft. SE and NE lines, Blk. 9, Haynes Subd., Comitas and Villa grant.
Drlg. 3,182 ft.

Merle Gunby's No. 4 Alice D. Haynes, 760 ft. from SE line, 200 ft. from SW line of Blk. 4, Haynes Subd. of Comitas & Villa grant.
Location.

Howell Muckelroy's No. 1 Filemn Flores, 77 ft. from SE line on NE line Lot 3, Blk. 30, Por. 37.
Derrick.

Joe Palmer's No. 1 J. M. G. Martinez, 150 ft. SE and SW line, Blk. 27, Sur. 434.
Drlg. 165 ft.

A. H. Wray's No. 5 Gopher Trust, 330 ft. NE and NW lines of Blk. 12, Sur. 1, San Ignacia Subd., Borrego grant.
Drlg. 595 ft.

Southwest Texas Proven

Week Ending November 24

NORTH DALE POOL—BASTROP COUNTY

Cole Pet. Co.'s No. 1 Rubin Gage, NE cor. of tract, 150 ft. each way from corner.
Location.

Joe E. Mills' No. 1 Mrs. W. J. Cardwell, 900 ft. from SE line, 1,200 ft. from SW line of tract, J. A. Navarro Sur.
Rigging up and S.D.

Joe E. Mills et al's No. 1 Wm. Litton, 620 ft. from SE line, 850 ft. from SW line of 320-ac. tract in Navarro Sur.
Abd. 1,735 ft.

Porter and Neal's No. 1 J. F. Wolff, 150 ft. from NE line, 2,300 ft. from SE line of F. Edmundston Sur.
Spudded and S.D.

CAESER—BEE COUNTY

Luling O. & G. Co.'s No. 5 (B-3) Ruhmann, 300 ft. S, 300 ft. E of No. 4 (C-1).
W.O.C. 3,077 ft.

NORTH PETTUS FIELD—BEE, GOLIAD AND KARNES COUNTIES

Houston Oil Co.'s No. 9-B Niehaus, 660 ft. SE of No. 6-B, B.S.&F. Sur.
Abd. location.

United Prod. Co.'s No. 47 Ray, 300 ft. NW from SW cor. of Houston Oil Co.'s Neihaus "B" lease along Neihaus-Ray property line, thence 330 ft. in SW direction at R/A to previous course.
Killed well and are deepening; drlg. sandy shale 4,205 ft.

TULETA—BEE COUNTY

Circle W. Oil Co.'s No. 3 Rapp.
T.D. 3,907 ft.; I.P. 100 bbls. per day on ¼-in. choke.

Heyser, Heard & Walton's No. 1 Perez, C of Blk. 9, of SE Sec. 8.
Spudded and set surface csg.

Heyser, Heard & Jones' No. 2 Rapp.
T.D. 3,910 ft.; I.P. 200 bbls. per day; ¼-in. choke.

E. M. Jones' No. 1 Skinner & Harris, 330 ft. from N and W lines of E 80-ac. of NW of Sec. 10 Ragsley Subd. of Uranga grant.
T.D. 3,948 ft.; I.P. 400 bbls. per day; 5/16-in. choke; tubing pressure 525 lbs.; csg. pressure 850 lbs.

Edwin M. Jones' No. 3 Skinner & Harris.
Rigging up.

Edwin M. Jones' No. 2 Robinson, 330 ft. from S line, 990 ft. from E line of SW of Sec. 5.
Location.

Houston Oil Co.'s No. 1 Ed Strauss, C of Blk. 2, SW Sec. 9, Uranga grant.
Ready to spud.

Mills Bennett's No. 2 Harris, 990 ft. from E line, 330 ft. from S line of tract.
Drlg. 2,000 ft.

Mills Bennett's No. 1 Silcock, 330 ft. S and W of NE cor. Sec. 9, Uranga grant.
Sand 4,220-26 ft.; tested 10 thribbles of mud and oil and 10 thribbles S.W. with 40 lbs. pressure.

Mills Bennett's No. 1 Tuleta Mercantile Co., 330 ft. from N and W lines of SW Sec. 10.
Derrick.

HOCH—BEXAR COUNTY

H. J. Trawalter's No. 7 fee, 150 ft. from N line, 450 ft. from E line of 202-ac. tract in S. Jett Sur. No. 53.
Standing 450 ft.

DALE—CALDWELL COUNTY

W. B. Hinton's No. 1 Osteen, 150 ft. SW line, 450 ft. NE line of 70-ac. tract in Swearingen Sur.
T.D. 2,010 ft.; showing oil.

McNeil Pet. Co.'s No. 1 J. M. Mears, 660 ft. NW line, 700 ft. SW line of 327-ac. tract in W. C. Swearingen Sur.
Spudded.

DUNLAP—CALDWELL COUNTY

Moseley's No. 1 J. M. Pierce, 150 ft. E line, 400 ft. S line of G. C. and W. P. Walker tract, Seale Sur. No. 8.
Drlg. 1,790 ft.; no report.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Brown & Nessly's No. 1 Curry, 330 ft. N line, 990 ft. W line of SW. Sur. 62.
Location.

Brown & Nessly's No. 3 Runnels, 330 ft. S line, 990 ft. W line of NE NW Sur. 62.
Location (reported drilling in error).

Brown & Nessly's No. 4 Runnels, 330 ft. E and N line of NE NW Sur. 62.
Abd. 2,366 ft.

Edna Bryant et al's No. 1 J. W. Kidd, 430 ft. S line, 315 ft. E line of Sur. 56.
Standing 3,220 ft.

Edgington & Murray's No. 1 C. W. Hahl, 330 ft. N and E lines, Blk. 16, Sur. 250.
Skidding rig.

Edgington & Murry's No. 2 Winch & Henne, 330 ft. from E line, 990 ft. from N line, Blk. 15, Sur. 250.
T.D. 2,376 ft.; I.P. 60 bbls. per day on pump.

Felix Oil Co.'s No. 2 Curry, 330 ft. S line, 990 ft. W line of N½ SW of Sur. 62.
Rigging up.

Gov. Wells Oil Co.'s No. 7 State, 990 ft. N line, 2,310 ft. W line of Sur. 60.
W.O.C. 2,271 ft.

Gov. Wells Oil Co.'s No. 8 State, 330 ft. W line, 990 ft. N line of NE of Sur. 62.
Location.

Magnolia Pet. Co.'s No. 11-A C. W. Hahl, 330 ft. S and W lines of SE Sur. 45.
Abd. 2,325 ft.

Magnolia Pet. Co.'s No. 1 D.C.R.C., 330 ft. S and E lines of Sur. 57.
Drlg. 310 ft.

Magnolia Pet. Co.'s No. 40 D.C.R.C., 990 ft. W line, 2,310 ft. N line of Sur. 209.
T.D. 2,328 ft.; I.P. 100 bbls. per day on ¼-in. choke.

Magnolia Pet. Co.'s No. 41 D.C.R.C., 330 ft. from S and W lines of NW of Sur. 209.
Drlg. 510 ft.

Magnolia Pet. Co.'s No. 3 Hahl-Norton, 330 ft. S and W lines of Sur. 61.
T.D. 3,340 ft.; I.P. 35 bbls. per day on pump.

Magnolia Pet. Co.'s No. 1 Emil Lubbe, 330 ft. S and W lines of Sur. 2.
T.D. 2,435 ft.; preparing to run csg.

Magnolia Pet. Co.'s No. 4 A. L. Tankersley, 330 ft. S line, 250 ft. E line of SW of Sur. 46.
T.D. 2,329 ft.; I.P. 75 bbls. per day.

Magnolia Pet. Co.'s No. 10 J. O. Wilson, 330 ft. N and E lines of Sur. 348.
Rigging up.

Newton & Andrews' No. 1 Bowe, 330 ft. S and W lines of Blk. 21, Sur. 250.
Drlg. 505 ft.

Reynosa Oil Co.'s No. 9 D.C.R.C., 330 ft. E line, 430 ft. N line of N½ SW of Sur. 362.
T.D. 2,285 ft.; I.P. 15 bbls. per hr.; flowing.

Russ Pet. Co.'s No. 3-C Hahl, 330 ft. from N and E lines of NW of Sur. 62.
Location.

Russ Pet. Co.'s No. 4-C Hahl, 330 ft. N and E lines of SW NW of Sur. 62.
T.D. 2,351 ft.; I.P. 100 bbls. per day, jetting.

Smith & Story's No. 12 Luncell, 330 ft. S line, 990 ft. W line of Sur. 48.
Rigging up.

Sun Oil Co.'s No. 73 Weiderkehr, 660 ft. S of No. 70 on 3,035-ac. tract in Sur. 359.
Abd. location.

Sun Oil Co.'s No. 3 Henne-Winch, 330 ft. W and E line of Sun tract in Blk. 15, Sur. 250.
T.D. 2,360 ft.; I.P. 80 bbls. per day on pump.

Texas Co.'s No. 6 B.D.L.C., 1,025 ft. W line, 360 ft. S line of Sur. 135.
Rigging up.

E. R. Thoas' No. 1 Bishop Cattle Co., 2,335 ft. E line, 330 ft. N line of S½ of Sur. 135.
Location.

Trapshooter Reilly's No. 6 Hahl, 865 ft. N line, 330 ft. E line of Blk. 27, Sur. 250.
Drlg. 1,110 ft.

Trapshooter Reilly's No. 4-B Hahl, 70 ft. E line, 330 ft. S line, Sur. 48.
T.D. 2,347 ft.; I.P. 70 bbls. per day on pump.

J. H. Winch's No. 1 Smith Corkill, 1,667 ft. NW line, 980 ft. SW line of Sur. 491.
Drlg. 85 ft.

HOFFMAN—DUVAL COUNTY

Southwest Drlg. Co.'s No. 1 Cuellar, 330 ft. SW and NW line of NE of Sur. 114.
Set 10-in. csg. 40 ft.; W.O.C.

LUCAS—LIVE OAK COUNTY

Lion Oil & Ref. Co.'s No. 2 McNeil, J. Curry Sur., 660 ft. N of No. 1.
T.D. 5,919 ft.; preparing to set csg. at 5,860 ft.

Houston Oil Co.'s No. 29 Cartwright
Drlg. sticky shale 1,120 ft.

SAM FORDYCE—HIDALGO COUNTY

W. E. Butler's No. 1 F. B. Guerra, 93 ft. N line, 294 ft. S and W lines of 2.5-ac. tract in Tract 254, Por. 39-40.
Location.

Circle W Oil Co.'s (Navarro) No. 1 Seabury, George & Taylor, 330 ft. S and E lines of SE 51-ac. tract in Tract 256, Por. 38.
Sand 2,785-89 ft.; set csg.

Jack Clements' No. 1 Felipe Farias, 150 ft. from N and E lines of Share 373, Por. 39, Reynosa.
Derrick.

Cosmo Pet. Co.'s No. 1 F. B. Guerra, 330 ft. W line, 130 ft. N and S lines of N 25-ac. of S 100-ac. of E 290-ac. of Tract 254, Por. 39-40.
Rigging up.

Danvers-Harrison & Davis' No. 1 Dr. Austin, center of E 7.3-ac. of S 14.4-ac. in Share 232, Por. 39.
Location.

Davis & Harrison's No. 1 Smith, S offset to No. 1 Guerra, of D. & H.
Location.

Edwards & Olford's No. 1 E. Flores, 330 ft. N line, 126 ft. E line of Tract 267, Por. 38.
T.D. 2,807 ft.; I.P. 19 bbls. per hr.; working pressure 150 lbs.; 80 lbs. closed-in pressure.

M. Porter Evans' No. 1 John W. Lawrence, 330 ft. from N and W lines of W 19.04-ac., Share 374, Por. 39.
Moving in rig.

Porter Evans' No. 1 David Flores, Tract 262, Por. 38.
S.D. 2,230 ft.

Heep Oil Co.'s No. 1 W. R. Jackson, 344 ft. E and W lines, Tract 278, oPr. 39-40.
Abd. 4,645 ft.

Heep Oil Co.'s No. 2 Seabury et al, 330 ft. N and E lines of SE 200 acres, Tract 256, Por. 38.
Spudded.

Henshaw Oil Corp.'s No. 1 Seabury et al, C of SW 11.5 acres of NE 45.25 acres, Tract 256, Por. 38.
Location.

R. C. Horne's No. 1 F. B. Guerra, 93 ft. S line, 294 ft. E and W lines of NW 2.5-ac. tract in S 135 acres of E 290 acres of Tract 254, Por. 39-40.
Location.

T. I. Larson's No. 1 G. G. Salinas, 330 ft. S and W lines of Share 10, Por. 41.
Drlg. 2,100 ft.

Lucky, Blocker & Bishop's No. 2 F. B. Guerra, 300 ft. S line, 2,511 ft. W line of Tract 254, Por. 39.
T.D. 2,769 ft.; comp. as dry gas well; 1,425 lbs. closed-in pressure.

Moncrief & Showers' No. 1 John Lawrence, on 9.52-ac. tract.
T.D. 2,784 ft.; I.P. 25 bbls. per hr.; tubing pressure 1,150 lbs.; csg. pressure 2,772 lbs.

Moncrief & Showers' No. 2 John Lawrence, 305 ft. N line, 241 ft. E line of 13.5-ac., Tract 274, Porcion 39.
Moving in derrick.

Moncrief & Showers' No. 1-B J. Lawrence, NE 13.5 acres, Tract 274, Por. 39.
Derrick.

Moncreif & Showers' No. 1 C. E. Smith, Tract 3-B, Por. 41.
Moving in machinery.

Moss & Bass et al's No. 1 F. B. Guerra, 245 ft. N line, 300 ft. W line of 25 acres of S 50 acres of E 290 acres, Tract 254, Por. 40.
Location.

Phillips Pet. Co.'s No. 1 Seabury et al, Tract 278, Por. 40.
Spudded and S.D.

Reynosa Oil Co.'s No. 1 Guerra, 330 ft. from W line, midway between N and S lines of NW 10-ac. of SW 40 acres of Tract 254, Porcion 39.
Machinery on ground.

Reynosa Oil Co.'s No. 1 P. S. Rivas, 330 ft. from N line, 258 ft. from W line of N 30-ac., Tract 393, Por. 39.
Location.

Rogers O. & G. Co.'s No. 1 Guerra.
Location.

H. B. Simms' No. 1 Guadalupe, F. V. de Rivas, 129 ft. N and S lines, 209 ft. E and W lines of Lot 101, Tract 349, Por. 40.
Abd. location.

Ed Sullivan's No. 1 E. B. Guerra, center of NE 10.77 acres of SW 40.7 acres of Tract 254, Por. 39.
Location.

Ed Sullivan's No. 1 E. Flores, 330 ft. N line, 107 ft. E and W lines of Tract 266, Por. 38.
Location.

Van Dresar et al's No. 1 W. R. Jackson, 330 ft. from N and W lines of 92-ac. tract, Por. 38-39-40, Blk. 273.
Location.

Weekly Oil Corp.'s No. 1 Smith, Tract 278, Porcion 40.
Rigging up.

Otto Woods' No. 1 F. B. Guerra, 1,700 ft. NW of discovery well.
T.D. 2,806 ft.; I.P. 60 bbls. per day.

Otto Woods' (Kingwood) No. 3 F. B. Guerra, 300 ft. S line, 1,077 ft. W line, Tract 254, Por. 39.
T.D. 2,797 ft.; I.P. 40 bbls. per hr.; ¼-in. choke; tubing pressure 125 lbs.; csg. pressure 250 lbs.

Otto Woods' (Kingwood) No. 4 F. B. Guerra, 330 ft. S and E lines of NW 30 acres of S 150 acres, Tract 254, Por. 39.
Location.

Otto Woods' No. 3 John Lawrence, 330 ft. from S and W lines of W 40 acres of Tract 274, Por. 39.
T.D. 2,787 ft.; I.P. 175 bbls. per hr.; tubing pressure 275 lbs.; csg. pressure 250 lbs.

Otto Woods' No. 4 John Lawrence, 330 ft. from E line, 350 ft. from S line of W 40 acres, Tract 274, Por. 39.
Rigging up.

Windsor Oil and Circle W Oil Co.'s No. 1 J. H. Doss, 330 ft. from N and W lines of 55 acres or in Tract 278, Por. 40.
Abd. location.

JACOB POOL—McMULLEN COUNTY

American Gas Co.'s No. 1 L. Jacobs Corp., 350 ft. W of SE cor., 160 ft. SE line of tract in Fadden Sur.
Spudded and S.D.

Jane Oil Co.'s No. 3 H. L. Lark, 500 ft. N of No. 2.
Spudded.

C. R. Kennon's No. 4 H. L. Lark, 175 ft. from S line, 175 ft. from W line of E 20-ac. of Blk. 15 of Scrugham Sur.
Dropped till work is started.

C. R. Kennon's No. 5 H. L. Lark, 175 ft. from S and E lines of E half of Blk. 15 of Scrugham Sur.
Dropped till work is started.

Leonard Jacob Corp.'s No. 2-F Jacob, 990 ft. from S and W lines of 99.72-ac. tract in N part of John Fadden Sur.
Spudded.

Loma Oil Co.'s No. 31-A Jacob, 660 ft. N of 30-A.
Spudded.

Motes & Bettfield's No. 2 H. L. Lark, 660 ft. N of No. 1, Scrugham Sur.
Cmtd. csg. 995 ft.

Newton et al's No. 1 Murphy, SW cor. of Sur. 480.
Drlg. 1,610 ft.

Stewart & Holding Co.'s No. 3 Jacob, 660 ft. S and 660 ft. E of No. 2, John Fadden Sur.
T.D. 895 ft.; S.D.

R. P. Whitefield's No. 3 Jacob, 240 ft. E line, 275 ft. S line of 70-ac. tract out of NE cor. Sec. 9, 314 ft. S of No. 1.
Setting csg. 916 ft.

SINTON—SAN PATRICIO COUNTY

Heep Oil Corp.'s No. 2 R. Welder, 466 ft from S line, 2,000 ft. from E line of Adeline Welder tract in Victor Loupsey Sur.
Derrick.

Heep Oil Corp.'s No. 4 R. Welder, 466 ft from S and W lines, 300-ac. tract, Victor Loupsey Sur.
T.D. 7,220 ft.; set csg. 6,692 ft.

Plymouth Oil Co.'s No. 2-B Welder, start at SW cor. of "B" lease, thence NW along the W line 2,100 ft., thence 350 ft. NE at R/A.
W.O.C. 1,394 ft.

Plymouth Oil Co.'s No. 3-A Wheeler.
Location.

JEFFRIES-LAMBETH—STARR COUNTY

Weekly Oil Co.'s No. 2 S.C.C.C., 330 ft. from S and W lines of Blk. 19, Porcion 89.
Abd. 2,742 ft.

LOS OLMOS—STARR COUNTY

J. P. Kennedy's No. 3 Kelsey-Bass, 200 ft. SE of No. 7 Kelsey-Bass in Blk. 7 of Porcions 75, 76 and 77.
Drlg. 300 ft.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 5-C M. Guerra & Son, 1,320 ft. NE of No. 4-C La Sacatosa grant.
Location.

RIO GRANDE CITY—STARR COUNTY

Goodwin & Zimmerman's No. 1 Ida Davis, 33 ft. SW line, 576 ft. NW line of Blk. 16, Tract 4, Share 78, Por. 81.
Location.

AGUA DULCE—NUECES COUNTY

Clymore Prod.'s No. 3 Ingram, 660 ft. from E and S lines, Sec. 6, Blk. 6, Peters Subd.
Derrick down.

Clymore Prod. Co.'s No. 3-D Ingram, 660 ft. from S and W lines of Lot No. 7, Sec. 6, Peters Subd. No. 2.
Location.

Clymore Prod. Co.'s No. 1-C Ollie Purl, 660 ft. N and E lines of Lot No. 2, Sec. 7, Peters Subd. No. 2.
Moving in rig.

SAXET—NUECES COUNTY

Southern Mineral Corp.'s No. 4 Ocher, 1,290 ft. S line and 417 ft. E line of Ocher 202.52-ac. tract in Sec. 8.
Location.

WEST COLE POOL—WEBB COUNTY

American Liberty Oil Co.'s No. 4-A Bruni, 777 ft. SW line, 1,598 ft. SE line of Sur. 6, Foltz Subd., Arispe grant.
T.D. 3,419 ft.; I.P. 25 bbls. per hr.

American Liberty Oil Co.'s No. 6-A Bruni, 330 ft. NW line, 1,003 ft. SW line of Sur. 6.
T.D. 3,456 ft.; tested dry; set 7-in. csg. at 3,387 ft.

American Liberty Oil Co.'s No. 3-B Bruni, 418 ft. NE line, 260 ft. NW line of Blk 12, Sur. 5.
Drlg. plugs at 3,447 ft.

Herman Brown's No. 4 Bruni Est., 418 ft. NE line, 260 ft. SE line, Blk. 7, Sur. 5, Arispe grant.
Set csg. 300 ft.; W.O.C.

Cole Pet. Co.'s No. 87 R. Benavides, 990 ft. SE line, 330 ft. SW line of Sur. 1.
T.D. 3,431 ft.; P.B. 2,311-20 ft.; comp. 10,000,000 ft. of gas.

Cole Pet. Co.'s No. 88 R. Benavides, 990 ft. SW line, 330 ft. SE line, of Sur. 1.
Derrick.

Highland Oil Co.'s No. 1 Bruni, 152 ft. SW line, 330 ft. NW line, Sur. 7.
Drlg. 610 ft.

Kalmore's No. 1-B Bruni, 330 ft. to W line, 418 ft. SW line, Blk. 23, Sur. 5, Adams Subd., Mariano Arispe grant.
No report.

O. W. Killam's No. 29 Bruni, 1,287 ft. SE line, 1,950 ft. SW line of Share 6, Arispe grant.
Testing 3,418 ft.

Sun Oil Co.'s No. 2 Bruni, 418 ft. NE line, 260 ft. SE line, Blk. 9, Sur. 5.
Drlg. 1,605 ft.; 10-in. csg. at 300 ft.; no report.

Starr State Oil Co.'s No. 11 Yeager, 200 ft. S line, 450 ft. E line of 632-ac. tract in Share 5 of Los Animas grant.
Drlg. hard sand 3,455 ft.

BYERSVILLE—WILLIAMSON COUNTY

G. L. Rowsey, tr.'s No. 3-A Heep, 1,575 ft. SW of creek, 450 ft. SW line, H. White Sur.
T.D. 910 ft.; I.P. 5 bbls. per day; pumping.

G. L. Rowsey's No. 1 Lange, 150 ft. SW line, 1,900 ft. N of creek, Hamilton White Sur.
Dry and abd. 1,100 ft.

G. L. Rowsey's No. 2 Lange, 2,850 ft. from creek, H. White Sur.
T.D. 945 ft.; I.P. 12 bbls. per day.

BLAS URIBE—ZAPATA COUNTY

O. W. Killam's No. 9 Bruni, 150 ft. SE line, 400 ft. NE line of Blk. 9, Blas Uribe tract, Borrego grant.
Rigging up.

ESCOBAS—ZAPATA COUNTY

United Prod. Co. et al's No. 1 Ramirez, 225 ft. from NE and SE lines of lease.
Coring 2,054 ft.; no report.

JENNINGS—ZAPATA COUNTY

Texas Co.'s No. 58 Whitehead, 15,875 ft SW line, 150 ft. SE line of Cerrito Blanco grant.
T.D. 1,245 ft.; I.P. 5 bbls. per day.

Texas Co.'s No. 59 Whitehead, 1,765 ft. from SE line, 17,110 ft. from SW line of Cerrito Blanco grant.
Location.

MARTINEZ—ZAPATA COUNTY

S. R. C. Oil Corp.'s No. 3-F Trevino, 261 ft. N line, 155 ft. E line of Blk. 21, Sur. 411.
Drlg. 1,210 ft.

RANDADO—ZAPATA AND JIM HOGG COUNTIES

Sulgrave Oil Co.'s No. 1-D Maryland Trust Co., 660 ft. S line and common lines of Blk. 2-4, Tract "D," Sur. 314.
Drlg. 1,560 ft.

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Among Gulf Coast Drilling Contractors

Frank Long has completed a well for Jules Alford in the Sam Fordyce Field, Hidalgo County, and is preparing to drill a second well for the same operator.

Smith & McDannald have moved a heavy Oklahoma rig into the Roanoke Field, Jefferson Davis Parish, Louisiana, to drill a deep well for the Shell Petroleum Corp. Shell's previous wells in this field have been dug with company rigs. Same contractors are preparing to rig up on No. 3 Kuntz for Pure Oil Co. at Louise, where one of their rigs, on day work, has just successfully penetrated more than 2,000 feet of heaving shale, bottom of the hole being at 8,271 feet. Smith & McDannald also have four rigs running for the Superior Oil Producing Co. at Bosco, Louisiana, and one rig in the Cayuga Field for the Tide Water and Texas Seaboard Oil Companies.

Ed Watts has leased a heavy rig to H. C. Cockburn, independent oil operator, who is erecting derrick for a new test at Sheppards Mott, Matagorda County, to be drilled to the Marginulina sand which is expected to be picked up at about 6,300 feet. Jim Watts, Butch Best and Mr. Thayer will be drillers on the job. A heavy derrick, weighing 28,000 pounds, is being used. This test will be watched with interest, as Sheppards Mott has long been known as a bugaboo to drillers because of heaving shale. More than 25 wells have been drilled on this prospect, 15 of them shallow wells, and 10 scheduled for deep tests. Mr. Cockburn has drilled five wells himself, the last of which was abandoned following parting of the drill stem in the surface casing which resulted in a badly corkscrewed stem below. Special care will be taken in mixing mud for this test, with a view of eliminating free water from the drilling fluid.

C. & C. Drilling Co. is moving a rig into the Rabbs Ridge Feld, Fort Bend County, to drill a well for H. M. Naylor, to be carried as No. 6 Stanley B. Gehr. The same contractors have set surface pipe on No. 2 York in the Livingston Field, for B. M. York.

George Gay, associated with L. W. Capps, has just returned from a 12-day business trip to Washington, D. C. On his second evening in the city, an old friend of his, now with the Associated Press, suggested that they go to a burlesque show. Mr. Gay is reported to have replied that after two days in Washington he had seen enough burlesque to last him for the rest of the season.

L. W. Capps is preparing to drill a deep test for the Texas Co. on the George Rehmann tract, San Felipe Dome, near Brookshire, Waller County. Another rig is drilling plugs on a well for the Naylor Oil Co. at Rabbs Ridge, Fort Bend County. A third rig is drilling plugs on Capps' own well at Brookshire, on the San Felipe Dome. A fourth rig is preparing to set up on a wildcat test for the Seaport Oil Co. 10 miles west of Hunstville in Walker County. This test will be located on the W. B. Roff 135 acres, and will be drilled to 6,000 feet.

Edwards Drilling Co. has set 7,929 feet of 7-inch O.D. casing on its well for the Pure Oil Co. at Dickinson, Galveston County. Bottom of hole is at 8,016 feet. The company also has one rig running for Humble Oil & Refining Co. in East Texas, and is preparing to spud on an 8,500-foot test for John R. Black and others near Franklin, St. Mary's Parish, Louisiana.

W. Claud Smith has a rig on a workover job for the Texas Co. in the Conroe Field, and another rig drilling for the same company in the Tomball Field.

Cron & Gracey have four rigs running for the Shell Petroleum Corp. in the Iowa Field, Louisiana, and one for the Barnsdall Oil Co. in the same field. A sixth rig is running for the Texas Co. at Manvel, Brazoria County, and a seventh is preparing to set up for the same company in Victoria County, near Fordtran.

San Patricio Drilling Co. has a new location to drill for the Skelly Oil Co. in the Tomball Field, Harris County. Same contractor has a rig running at Refugio for the Conroe Oil Corp. and Santa Clara Oil Co., and a rig running on the day basis in the Vanderbilt Field for Phillips Petroleum Co.

W. V. (Bill) Bowles has one rig running for the Texas Co. in the Manvel Field, Brazoria County, and one rig shut down on a well for the Continental Oil Co. at Citrus Grove, Matagorda County, where heaving shale has been penetrated to a greater depth than was possible in five previous tests on this prospect.

Edwards Drilling Co. is drilling at 7,660 feet on its well for the Pure Oil Co. at Dickinson, Galveston County, after straightening 200 feet of crooked hole. The company also has one rig running for the Humble Oil & Refining Co. in East Texas, and is preparing to spud on an 8,500-foot test for John R. Black and others near Franklin, St. Mary's Parish, Louisiana.

William V. (Bill) Bowles, until several years ago manager of the South Texas division of the producing department of the Texas Co., is a pioneer in

WILLIAM V. BOWLES

Gulf Coast oil drilling and producing circles. He came to Beaumont from Mississippi as a youth at a time when Spindletop was at its height. His first job, that of firing a boiler, was with the German American Oil Co. He helped build one of the first earthen storage tanks in the Spindletop Field, and later, when sand troubles developed in the wells of that field, he devised a screen to keep the sand out. After about three years with this company, Mr. Bowles, his father and two brothers, organized a producing company and operated at Spindletop until 1910, when they sold their holdings. In 1915 he started with the Texas Co., first being located at West Columbia. He served as chief scout at Houston, as field superintendent at West Columbia, later became assistant general superintendent, and was finally named as manager of production. About two years ago Mr. Bowles left the Texas Co. and started in the contracting business. He kept several rigs continuously busy since.

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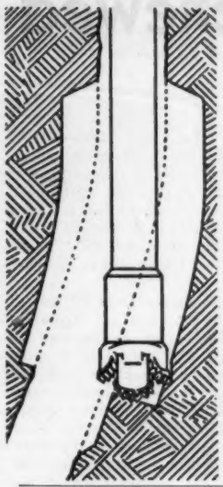

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New Field Is Reported on Outskirts of Houston; Renewed Interest Shown in Dickinson District

By F. L. SINGLETON
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Nov. 26.—Eureka Heights, a geophysical prospect, northwest of the city limits of Houston, was proven productive during the week when C. B. Bunte, Inc. completed No. 1 Laura Lackner, H. Reinerman Survey, as a wet gas well. This is the third field to be opened on the Gulf Coast within the past three weeks.

The well is producing from 37 feet of sand bottomed in the Cockfield formation at 7,686 feet. Seven-inch casing was cemented at 7,647 feet and after running 18 feet of screen and liner the well was washed for 1 hour and 45 minutes, when it started cleaning itself through a one-eighth inch tubing choke, flowing wash water and a small amount of distillate, with tubing pressure 1,950 pounds and 700 pounds on the casing. Late in the week the well was still cleaning itself through a three-thirty-seconds inch choke and had increased its pressure 2,150 pounds on the tubing and 2,000 pounds on the casing.

This prospect was discovered in 1929 by the use of geophysical instruments, and was tested that year by the Buffalo Oil Co.'s No. 1 Beall, drilled northwest of the discovery in the John Flores Survey, and abandoned in gumbo and lime at a total depth of 4,662 feet. No new locations have been announced, although several companies own considerable protection acreage around the test.

Dickinson Area

Interest on the Gulf Coast is again centered on the Dickinson area, Galveston County, where Pure Oil Co. and Humble Oil & Refining Co. are preparing to test their two wells drilled simultaneously.

Pure Oil Co.'s No. 1 Shelor, in the B.B.B.&C. Survey, is bottomed at 8,016 feet and is due to be tested the first part of the week. Seven-inch casing was cemented at 7,929 feet after the operators had cored a body of sand which showed good saturation. It is reported the sand cored from 8,006 feet to the total depth offers the test an excellent chance for production. Plugs have been drilled and the operators are setting screen and liner. One-half mile southwest, Humble Oil & Refining Co.'s No. 1-B Maco Stewart, in the John Sellers Survey, which has been in process of completion for three weeks, is preparing to test again after resetting the screen and liner. It is bottomed at a plugged depth of 8,024 feet. Both tests are being drilled on the strength of the favorable showing made by Humble Oil & Refining Co.'s No. 1 Maco Stewart, which was abandoned in August after it blew out and caught fire. The two tests are bottomed in the Frio formation, the producing depth of a number of fields on the Gulf Coast. Pure Oil Co.'s No. 1 Shelor topped this formation at 7,780 feet and Humble Oil & Refining Co. encountered it at 7,899 feet.

Calhoun County

Another prospective pool opener was being tested over the week end. It is Steen Drilling Co.'s No. 1 Stanzel, 1 mile north of Port Lavaca in the A. Esparanza Survey, Calhoun County. This wildcat, in a drill stem test a couple of weeks ago made from 6,100-68 feet, showed 500 pounds of gas pressure in three minutes. Seven-inch casing was cemented at 6,120 feet, and the well was being washed in late Saturday. It is thought to be in the Frio formation and if the test proves productive, it will open the first field in the county. It is only 10 miles southeast of the Keeran Field in Victoria County and about the same distance south of Vanderbilt.

Liberty County

The wildcat test of Turnbull and Irwin's, No. 1 Lynott and Buffum, in the Hardin district, 11 miles north of Liberty, Liberty County, is bottomed at 7,511 feet in shale and is preparing to cement 7-inch casing on bottom. An electrical coring test was made, and operators will perforate the casing and make a drill stem test of every favorable showing logged. If this is unsuccessful, it is reported the hole will be carried deeper. Several showings of oil and gas were reported in cores taken from the test, but none was favorable enough to warrant setting casing. The well is 534 feet in the Cockfield, topped at 7,045 feet. It is in the James Robeson Survey.

Harris County

If negotiations under way are consummated, Harris County is due to get two more wildcat locations in the near future. Centering around the G. Sultzman, P. Sullivan, S. L. Noble and W.C.R.R. Surveys, a block of approximately 2,225 acres has been assembled by Charles Fox and Roy Hahl. It is reported the block is being taken for a major company. In the NE cor. E half of the H.&T.C. Survey, Section 39, Fidelity Royalty Co. and Walter Goldston are on a deal to drill a 6,500-foot test on the Joe Weingarten 320-acre tract. It is reported General Crude Oil Co., Humble Oil & Refining Co. and Skelly Oil Co. are interested. In the northeastern part of the county, the wildcat of W. C. Paul, No. 1 House, in the M. Magruder Survey, is drilling in shale below 5,664 feet.

Kittrell Field

In the Kittrell Field, southern Houston County, Humble Oil & Refining Co.'s No. 2 Shaw, which tested 1,400 feet of oil on a drill stem test from 1,974-2,000 feet last week, has been completed as a small gas well estimated at 39,400 feet with tubing pressure 750 pounds and casing pressure 790 pounds closed in. It is 660 feet northwest of the discovery and probably will be drilled deeper. The discovery well is producing from a total depth of 2,036 feet and has averaged 275 bbls. per day for the last month. The company has made two more new locations and has derrick up for its No. 3 Shaw, southwest of No. 2 Shaw. Material is being moved in for No. 4 Shaw, northwest of No. 2 Shaw, both locations being in the Charles McEllis Survey. North of the discovery well the company's No. 1 Texas Long Leaf Lumber Co. is still fishing at 3,870 feet for a stuck drill stem. Several miles north of the discovery the wildcat of Trinity Development Co., No. 1 G. A. Knox, in the William Prissick Survey, has been abandoned at a total depth of 2,500 feet after testing water from 2,088-2,100 feet.

Brazoria County

The discovery well of Harrison and Abercrombie, No. 1 Bernard River Land & Development Co., Old Ocean area, southwestern Brazoria County, averaged 500 bbls. per day for the week ending November 15, of which 375 bbls. was net distillate and 125 bbls. salt water. The well is flowing through a three-sixteenths inch tubing choke, with tubing pressure 1,600 pounds. The test is on a block of approximately 8,000 acres in the Charles Breen Survey.

Jefferson County

On the Pine Island prospect, Jefferson County, Navarro Oil Co. has derrick up for No. 1 Tolliver, 1,570 feet from the north line and 870 feet from the west line of the Shadric Morris Survey. This test is being drilled on the strength of an electrical coring test made in the abandoned test of Miramar Corp., No. 1 Tolliver, drilled this year to a total depth of 5,573 feet. It is east of Navarro Oil Co.'s test. In the same county, but on the Nome (China) prospect, Sun Oil Co.'s No. 1 H. Long in the John Blair Survey, is preparing to drill deeper after cementing 7-inch casing at 8,401 feet. It is bottomed at a total depth of 8,407 feet. Another deep test being drilled on a geophysical prospect is Magnolia Petroleum Co.'s No. 1 Herbert, located south of the above test in the P. H. Bell Survey. It is bottomed at 9,708 feet, and the operators are trying to get to the bottom with an electrical coring device.

Victoria County

In the Lower Gulf Coast, Victoria County, Texas Co. has made location for its second test around its No. 1 Midgett, a gas well completed several weeks ago. Material is being moved in for No. 1 Irene Foster in Section 10, T.&N.O. Survey, about three-qquarters of a mile east of the Midgett gas well and the same distance west of No. 1 Potthast, completed last week as a dry hole.

Wharton County

In the Louise Field, Wharton County, Pure Oil Co. is building derrick for No. 3 Charles T. Kountze, 1,980 feet southeast and 330 feet southwest of the NE cor. Section 9, in the Morris and Cummings Survey. The company's No. 2 Garrett in process of completion last week has been officially completed for 65 bbls. of oil in 24 hours through a one-quarter inch choke, with tubing pressure 750 pounds and casing pressure 320 pounds. Seven-inch casing was cemented at 5,115 feet, with the hole bottomed at 5,150 feet. No. 2 Stewart in Section 25, Morris and Cummings Survey, has drilled through a section of heaving shale and is drilling below 8,271 feet after setting 7-inch casing at 8,058 feet.

Walker County

In Walker County, Seaport Oil Co. is reported to be starting a wildcat 10 miles west of Huntsville on the W. B. Roff 135 acres in the William Hodge Survey. E. P. Kilgore and others' No. 1 Lamkin

Wildcat Operations on Gulf Coast

Week Ended November 24

HACOCOON BEND—AUSTIN COUNTY

Humble O. & R. Co.'s No. 10 Paine.
Drlg. shale 1,627 ft.

Humble O. & R. Co.'s No. 14 Paine.
T.D. 4,115 ft.; I.P. 64 bbls. per hr.; ½-in. choke.

Humble O. & R. Co.'s No. 1 Mueller.
T.D. 4,124 ft.; I.P. 73 bbls. per hr.; ½-in. choke.

Humble O. & R. Co.'s No. 1 Hill, Wm. C. White Sur.
Location.

Humble O. & R. Co.'s No. 6 Alberta Diemar, 525 ft. at R/A from NW line, 237 ft. at R/A from SW line, Wm. Harvey Sur.
Comp.; T.D. 3,228 ft.; I.P. gas well; tubing pressure 75 lbs.; csg. pressure 75 lbs.

Humble O. & R. Co.'s No. 10 Arthur Marten, 315 ft. from SE and 313 ft. from SW line of lease, Wm. C. White Sur.
Rigging up.

Humble O. & R. Co.'s No. 8-X Sanders, 788 ft. at R/A from N line, 250 ft. at R/A from most easterly line, Wm. C. White Sur.
Location.

Humble O. & R. Co.'s No. 2-X Zeiske, 949 ft. northeasterly along SE line, 331 ft. northwesterly from SE line, Wm. C. White Sur.
Location.

DANBURY—BRAZORIA COUNTY

Shell Pet. Corp.'s No. 7 Blakely-Winston, 63 deg. 11 min. E, 5,540 ft. N, 26 deg. 49 min. W, 200 ft. from SW cor. of Blakely-Winston 560-acre tract, H.T.&B. Sur.
13⅜-in. csg. at 2,000 ft.; T.D. 3,417 ft.

Shell Pet. Corp.'s No. 8 Haury, 800 ft. SE of No. 2 in line with No. 2 and No. 1 Blakely-Winston, E.&T.B. Sur. No. 13.
Coring hard shale 6,313 ft.

DAMON MOUND—BRAZORIA COUNTY

Gulf Stream, Inc.'s No. 1 Cave Heirs, 160 ft. from N line and 60 ft. from E line of Lot C, Blk. 50, A. Darst Sur.
Running 7-in. csg.; T.D. 1,312 ft.

Seco's No. 1-D Wisdom, 25 ft. from S and W lines of Blk. D, Lot 5, A. Darst Sur.
Coring sand 1,563 ft.

Intercoastal Oil Co.'s No. 12 Wisdom, 90 ft. from N line and 25 ft. from W line of Lot A, Blk. 51, A. Darst Sur.
Coring sand 2,858 ft.

HANVEL—BRAZORIA COUNTY

Texas Co.'s No. 13-B Belcher, W of No. 10-B Belcher, H. N. Little Sur.
Fishing 3,921 ft.

Texas Co.'s No. 9-A Belcher, 1,650 ft. S, 42 deg. W, and 330 ft. N, 48 deg. W of E cor. of lease, H. N. Little Sur.
T.D. 5,690 ft.; I.P. 36 bbls. per hr.; 24/64-in. choke; tubing pressure 450 lbs.; csg. pressure 600 lbs.

Texas Co.'s No. 1 Thomas James, 247.5 ft. N and 330 ft. E of SW cor. of Lot 1, A. C.H.&B. Sur. 91, Abst. 402.
Drlg. sandy shale 6,290 ft.

Gulf Prod. Co.'s No. 4 Colby, 330 ft. out of most northerly NE cor. of 200-ac. tract, Thomas Sproggins Sur.
Drlg. shale 6,152 ft.

Texas Co.'s No. 1-A Massey, 330 ft. out of NW cor. of 33-ac. tract in H. Stevens Sur.
T.D. 7,957 ft.; set whipstock at 7,422 ft.; sidetracked to 7,434 ft.

Texas Co.'s No. 3 Natalie, 1,112 ft. S, 45° W, 840 ft. W, 48° E from E cor. of tract in H. N. Little Sur.
Location.

Texas Co.'s No. 1 C. L. Rash, 330 ft. S, 42° W, and 330 ft. S 48° E from N cor. of lease in Thos. Spraggins Sur. A-366; W.O.).
T.D. 5,669 ft.; sidetracked 5,341 ft. to 5,380 ft.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Bowers, 2,405 ft. N line and 1,550 ft. from E line of Jared Groce Sur.
Abd. 2,472 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Texas Co.'s No. 84 Hogg, 2,483 ft. N, 50 ft. W from SE cor. of lease in M. Varner Sur.
Temporarily S.D. 5,242 ft.

BARBERS HILL—CHAMBERS COUNTY

McAlbert Oil Co.'s No. 7 J. F. Wilburn, 150 ft. W of No. 6 and C of H. Griffin Sur.
T.D. 4,793 ft.; I.P. 625 bbls. per day; 5/16-in. choke.

Moody Corp.'s No. 1-C E. W. Barber, 302 ft. from N line and 312 ft. from E line of "B" lease, H. Griffith Sur.
Drlg. salt 1,640 ft.

Humble O. & R. Co.'s No. 7-B Kirby, 200 ft. W of No. 6 in Henry Griffith league.
Drlg. salt 3,424 ft.

Sun Oil Co.'s No. 6 Higgins, 302 ft. W of E line and 432 ft. N of S line of lease.
Lime and shale 4,016 ft.; set 9⅝-in. csg.

Sun Oil Co.'s No. 10 Chambers, 50 ft. from N and W lines of lease.
Fishing 3,638 ft.

Sun Oil Co.'s No. 17 Wilburn fee, 188 ft. E of W line and 40 ft. S of N line and 120 ft. W of No. 16.
Derrick.

Sun Oil Co.'s No. 22 J. Wilburn, midway between wells No. 17 and 21, or 150 ft. from each well.
T.D. 3,257 ft.; cmtd. back to 2,930 ft.; W.O.C.

Texas Gulf Prod. Co.'s No. 4-B E. W. Barber, 75 ft. S of Moody Corp.'s No. 6-A Barber and 75 ft. from SW line of 33-ac. lease, H. Griffith Sur.
Preparing to set 6⅝-in. csg. in sand 4,241 ft.

Texas Gulf Prod. Co.'s No. 3 O. W. Winfree, 595 ft. S of N line and 50 ft. W of Drlg. hard shale and lime 5,175 ft.

Mount Lee Oil Co.'s No. 25 Chambers County, 75 ft. S, 50 ft. W of NE cor. of lease.
T.D. 4,767 ft.; reaming 4,380 ft.

(Continued on Page 73)

in the J. J. Holcomb Survey is reported to have been plugged at a total depth of 5,010 feet in sandy shale.

LOUISIANA GULF COAST

In Calcasieu Parish, Louisiana Gulf Coast, two interesting wildcat locations were made the past week. Five miles southeast of the Vinton Field, Gulf Refining Co. has made location for its No. 1 W. H. Starks and others. The test is on a block of approximately 6,000 acres known as the Gum Cove area. The block has recently been worked with geophysical instruments. Actual foot measurements are 1,650 feet west and 1,980 feet south of the NE cor. Section 26-11s-12w, and drilling operations are to start as soon as a road can be built to the location which is in a marshy area. This is the second wildcat operation to be started by the company. Its other active test is in Beauregard Parish on the Lutcher-Moore lease in Section 25-6s-12w. Late in the week it was drilling below 7,529 feet in shale. The other location was made by Plummer and McDaniel, 2 miles east of the town of Vinton in Section 13-10s-12w, which centers on a block of approximately 5,000 acres. The test is to be drilled on the Coburn-Hood land and is 1,072 feet east and 2,400 feet north of the SW cor. Section 13-10s-12w. In the same parish, another large block has been assembled by Humble Oil & Refining Co. which has acquired leases on approximately 14,000 acres in the Manchester and Bon Air area, a few miles southeast of Lake Charles. The block takes in parts of Townships 10s-7w and 20s-6w.

With Union Sulphur Co.'s No. 1 State land, in the Gillis area, Calcasieu Parish, approaching the producing horizon of the discovery well, royalty around the test is reported to be bringing good prices, the largest sale reported being made by O. H. Castle to R. J. St. Germain and A. T. Schwennesen for a reported price of $1,260 per acre base. Union Sulphur Co.'s No. 1 State land, three-quarters of a mile northeast of the company's No. 2 Barbe, the discovery, is coring in shale below 6,634 feet and should reach the producing depth by the middle of the week. No. 2 Barbe is producing from a total depth of 6,771 feet. The other active well in the area is Fohs Oil Co.'s No. 1 O. H. Castle, 1 mile due south of the discovery well in Section 13-9s-8w. It is drilling below 2,897 feet in sticky shale.

Iowa Field

In the Iowa Field, Jefferson Davis Parish, three wells are due to be completed. Magnolia Petroleum Co.'s No. 10 Wait is waiting on cement to set at a total depth of 6,947 feet after coring 15 feet of oil sand. Location is in Section 12-9s-7w. Shell Petroleum Corp.'s No. 3 Tuten in Section 13-9s-6w cemented 7-inch casing at 6,634 feet, preliminary to setting screen in oil sand bottomed at 6,649 feet. The same company's No. 5 Stafford, Section 13-9s-6w, is bottomed in oil sand at 6,973 feet and is waiting on cement to set. In the same parish, but in the Roanoke Field, same company's No. 1 Jarnigan, an east offset to the discovery, is coring in sandy shale below 9,192 feet with no shows of oil or gas being reported.

Bosco Field

Superior Oil Producing Co.'s No. 1 Malacon, an outpost test for the Bosco Field, Acadia and St. Landry Parishes, is coring in sand below 9,399 feet with no shows of oil or gas reported. This test is 2,500 feet south of production, and based on the top of the large Discorbis is running lower than the nearest producer. This is the deepest test ever drilled in the field, and one of the deepest holes in the Gulf Coast. No. 2 Comeaux in Section 34-8s-3e, within the proven limits, made a rather unusual showing the past week when it tested salt water at a total depth of 8,901 feet. It is 1,100 feet south of the company's No. 1 Comeaux, producing from 7,849 feet and 1,000 feet north of No. 1 Richard, producing from a total depth of 8,718 feet. The next well to be tested is No. 3 Hermandes, bottomed at 7,851 feet with 9⅝-inch casing cemented at 7,836 feet. The operators were drilling plugs late in the week. No new locations were announced.

Texas Co.'s No. 4 State, which opened the first production on the Four Isle Dome, Terrebonne Parish, is flowing 1,430 bbls. per day through a three-eighths inch tubing choke 980 pounds. It is flowing from 28 feet of sand bottomed at 5,639 feet. Location is in Section 24-21s-16e.

GULF COAST PRODUCTION

Following was the daily average production of Gulf Coast pools for the week ending November 23:

TEXAS GULF COAST

Pool and County—	Bbls.
Barbers Hill, Chambers	19,964
Blue Ridge, Fort Bend	1,034
Conroe, Montgomery	37,915
Esperson, Liberty	1,347
Goose Creek, Harris	3,187
Hankamer, Liberty	1,134
High Island, Galveston	6,911
Hull, Liberty	7,965
Humble, Harris	3,703
Livingston, Polk	2,117
Manvel, Brazoria	4,529
Markham, Matagorda	1,427
Orchard, Fort Bend	1,026
Pierce Junction, Harris	3,643
Port Neches, Orange	1,773
Raccoon Bend, Austin-Waller	4,175
Sour Lake, Hardin	2,165
Spindletop, Jefferson	3,017
Sugarland, Fort Bend	6,157
Thompson, Fort Bend	11,849
Tomball, Harris-Montgomery	3,793
West Columbia, Brazoria	2,904
Greta, Refugio	12,918
Pettus area, Bee, Goliad, Karnes	3,299
Refugio, Refugio	4,273
Saxet, Nueces	1,895
All other pools	12,083
Total Texas Gulf Coast	166,223

LOUISIANA GULF COAST

Field and Parish—	Bbls.
Black Bayou, Cameron	1,153
Bosco, Acadia	7,365
Caillou Island, Terrebonne	5,304
Cameron Meadows, Cameron	1,583
Evangeline (Jennings), Acadia	1,389
Hackberry (East), Cameron	5,004
Iowa, Jefferson Davis-Calcasieu	15,919
Lake Barre, Terrebonne	5,129
Leesville, La Fourche	18,775
Lockport, Calcasieu	1,938
Port Barre, St. Landry	3,864
Roanoke, Jefferson Davis	1,085
Sulphur, Calcasieu	3,591
Vinton, Calcasieu	2,743
All other pools	5,207
Total Louisiana Gulf Coast	80,049
Grand total Gulf Coast	246,272

SOUTHWEST TEXAS PRODUCTION

SAN ANTONIO DISTRICT

Pool and County—	Bbls.
Darst Creek, Guadalupe	8,807
Luling, Caldwell	5,403
Salt Flat, Caldwell	3,995
All other pools	4,498
Total	22,703

LAREDO DISTRICT

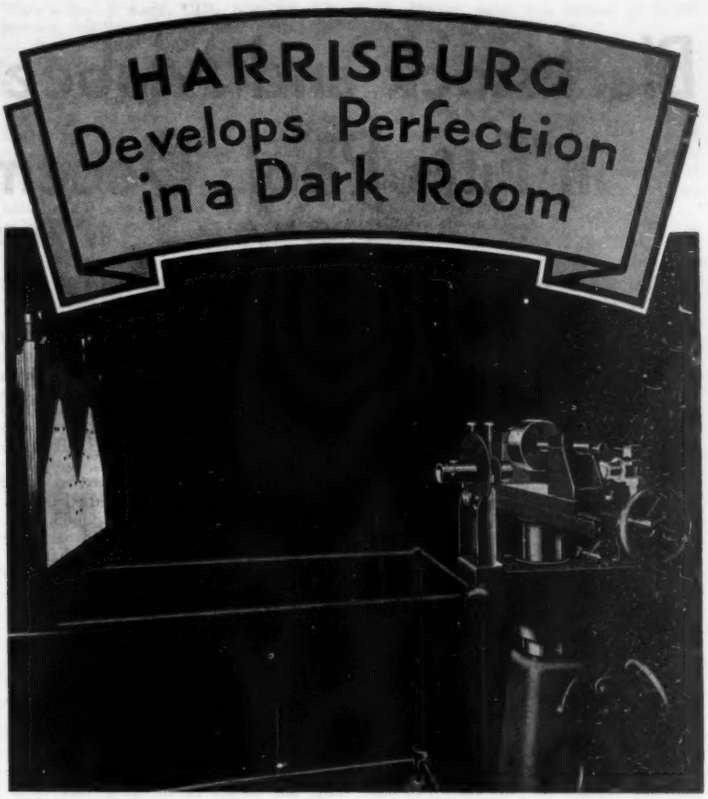
Cole, Webb-Duval	1,302
Escobas, Zapata	2,401
Government Wells, Duval	23,955
Sam Fordyce, Hildalgo	1,251
All other pools	6,285
Total	35,194
Total Southwest Texas	57,897

DECEMBER CRUDE ALLOWABLES

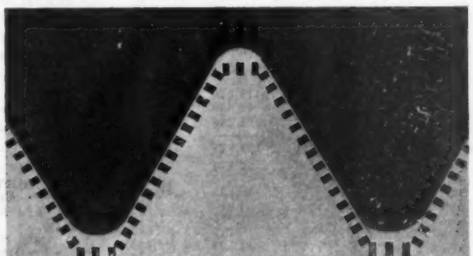
A decrease of 33,300 bbls. daily in the national allowable production of crude oil for December has been approved in an order signed by Secretary of the Interior Harold L. Ickes, the oil administrator.

The state allowables for December follow:

Arkansas	29,000
California	456,800
Colorado	3,000
Illinois	11,700
Indiana	2,100
Kansas	123,900
Kentucky	11,700
Louisiana	94,000
Michigan	27,900
Montana	8,000
New Mexico	45,900
New York	10,000
Ohio	11,500
Oklahoma	451,600
Pennsylvania	35,000
Texas	941,300
West Virginia	11,000
Wyoming	32,600
Total	2,307,000



The above illustration pictures the Comparator, a precision machine for checking form, taper and lead of threads of all tools and gauges used in making Harrisburg products. Shadows of the threads are flashed upon the graduated screen where inaccuracies are instantly detected. At the right is a typical shadowgraph made by the instrument on its screen. Such careful, scientific testing of tools explains why Harrisburg's threaded products are noted for their perfect fit. Manufacturing from the raw materials, Harrisburg is able to furnish these superior products at highly competitive prices: seamless steel pipe couplings, bull plugs, pump liners; forged steel pipe flanges; tool joint, casing, and drive-shoe forgings.



Tell-tale Shadows Point the Finger

HARRISBURG PIPE & PIPE BENDING CO., Harrisburg, Pa.

Seamless & Forged Steel Oil-Field Products

Blackstock and Mabee Get Big Initial Producer in Fitts Pool; December Pool Allowables

By JAMES McINTYRE

Blackstock Oil Corp. and Mabee Consolidated Corp. joined the producers of big wells in the Fitts Pool in Pontotoc County in the past week with their No. 1-B Craddock, NE NE SE Section 25-2-6, which started off at 2,389 bbls. in three hours, which rates it as close to a 20,000-bbl. well. It found Bromide sand at 4,135 feet and drilled into it 15 feet, first setting 2½-inch tubing at 4,148 feet. This is the biggest per hour production yet registered in the pool. It was the only new well in the pool in the course of the week and there was no new work started.

J. D. Sledge and Jack Lynch's wildcat test, No. 1-A Thompson, SW NE SW Section 1-1n-7e, which extended the Fitts Pool southerly, was shot in Hunton lime at 4,096-4,108 feet and then again at 3,883-3,910 feet. It swabbed 36 bbls. after the first shot but swabbed 184 bbls. in four hours after the second shot. The hole bridged at 3,875 feet.

Magnolia Petroleum Co.'s No. 1 Dawes Harden, C SW NW NE Section 30-2-7, had sands at 4,306-80 feet and 4,382-98 feet, and McLish at 4,398-4,400 feet. The hole was plugged back to 4,200 feet and the plug drilled to 4,343 feet and 2½-inch tubing run and set at 4,267 feet. The well flowed 89 bbls. in 24 hours and then 201 bbls. in 24 hours. It will be acidized.

Recommended Allowables

Comparison of the November allowables and December recommended allowables, is as follows, on a daily average basis. These figures are subject to correction when deductions have been made for overproduction:

Field—	Nov.	Dec.
Wilcox zone	118,620	115,061
Simpson zone	32,000	31,040
Fault Line	1,258	1,220
Total Oklahoma City	151,878	147,321
Seminole et al	56,174	52,301
Maud	875	520
St. Louis	17,061	16,333
Asher-Wanette	1,000	970
Konawa	1,625	1,576
Sasakwa	719	687
Allen	6,503	6,450
Sasakwa Town.	1,368	1,327
Earlsboro (Calvin)	1,288	1,249
Tatums	5,791	5,733
Fish (old)	1,522	1,486
Total Class B	128,094	120,892
Crescent	4,024	3,903
Lucien	7,651	7,805
Keokuk Falls	1,157	1,158
Fish-Simpson	200	194
Total Class C	13,032	13,061
Edmond Pool	400	400
Langston	300	300
Wilzetta	400	400
North Searight	300	300
Boley	200	200
Polo	500	900
Springrose	200	200
Russell Highley	100	100
East Lovell	200	200
Fitts (Bromide)	1,200	1,500
Olympic	200	200
Shawnee	100	200
Gessman	100	100
Fish-Cromwell	1,500	1,500
Fish-Wilcox	800	800
Grisso	100	100
Total Class D	6,600	7,400
Naval Reserve	7,685	7,454
South Burbank	10,000	9,700
Chandler	6,878	6,688
Gray	1,702	1,651
Total Class E	26,265	25,493
Unprorated	166,689	169,693
Grand total	459,300	451,600

Fitts Pool Tightly Curtailed

At a hearing before the Corporation Commission on November 23, it was decided that wells in wildcat fields in Oklahoma be permitted 100 bbls. per day during December, while the State's total quota was fixed at 451,600 bbls. daily, as suggested by Secretary Ickes, the Federal oil administrator.

The allocation for the Bromide sand zone of the John Fitts Field of Pontotoc County, was fixed at 1,500 bbls. daily, as there are now 15 wells producing from that sand. When the change from 50 to 100 bbls. per day was made several months ago, it was intended that when a field reached 15 producers, the maximum allowable would be fixed at 1,500 bbls. to be shared on a prorata basis by all wells in the field. It was found, however, that this clause was omitted from the general order covering the charge.

Fitts Pool operators were dissatisfied with the 1,500-bbl. per day allowable. They discussed the question of demanding a production of 100 bbls. per day per well thus taking advantage of the omission in the general order, but some favored petitioning for a reclassification of the Fitts Pool, which would result in a larger production.

W. A. Delaney, one of the pioneers in the field, is of the opinion that the field has a potential now of 160,000 bbls. per day, but scouts in the field make estimates much below that figure, and down to as low as 60,000 bbls. per day. Mr. Delaney believes that by March 1 of next year the field will have built up a potential of 230,000 bbls. per day.

It would not be of much benefit to Fitts producers to build up a big production at once as there is only one 4-inch pipe line serving the field. That is the Stanolind Pipe Line Co.'s line with a capacity of 4,000 bbls. per day. All the other pipe lines in the State have elected to remain out of the district thus far.

The production of the Fitts Pool this year has been as follows:

FITTS POOL PRODUCTION

Month—	Total (bbls.)	Dy. ave. (bbls.)
January	4,340	140
February	6,216	222
March	11,594	374
April	7,770	259
May	14,663	473
June	14,010	467
July	22,165	715
August	35,309	1,139
September	28,920	964
October	36,115	1,165

Oklahoma Field Averages

In the Oklahoma City Field, where proration is tightly administered, the wells do not all produce at the same time. For example, a late report of a week's production in that field indicated that on an average only 30 per cent of the wells were producing each day, while 70 per cent were resting, awaiting their turn.

The November allotment to the Oklahoma City Field was 151,878 bbls. There are 1,100 wells in the field, and the allotment thus permitted an average production of 138 bbls. per well per day. Some of the wells in the pool cannot make more than a small fraction of that quantity so it is safe to assume that some other wells are permitted to produce much more than the 138-bbl. average.

Osage County

Completions in Osage County in the past week included the following wells:

Sinclair Prairie Oil Co.'s No. 2, SE NE SE Section 10-26-6, sand 2,790-2,865 feet, shot with 120 quarts, 25 bbls.

Sinclair Prairie Oil Co.'s No. 1, NE cor. Section 16-25-6, Burbank sand at 2,830-52 feet, 2,440 bbls. naturally.

A. H. Kasishke's No. 2 Swanson, SE NE NW Section 21-25-6, Bartlesville sand at 2,812-28 feet, shot with 20 quarts, 90 bbls.

Atlantic Oil Producing Co.'s No. 9, SW NW NE SW Section 19-25-8, dry and abandoned in granite at 2,835-38 feet, total depth.

J. R. Higgins and others' No. 15, SW NE SW SE Section 25-23-8, Bartlesville sand at 2,039-57 feet, flowed 125 bbls. naturally.

Indian Territory Illuminating Oil Co. & Platter's No. 3, NE SE SE NW Section 30-22-9, dry and abandoned at 527 feet. Sand at 406-31 feet and lime at 496-502 feet were dry, and the hole was abandoned.

Sinclair Prairie Oil Co. had rig on the ground for No. 5, NE NW NE Section 21-25-6, the only new work reported in the course of the week.

Manahan Oil Co. and others' No. 5 Ducotey, SE NW NW Section 3-25-6, shot with 100 quarts at 2,839-89 feet, swabbed and flowed 568 bbls. of oil in 48 hours. In bailing after the shot five bailers of water were brought up.

Champlin Refining Co.'s No. 2 Fletcher, NE NE SW Section 4-25-6, was shot with 40 quarts and at 2,832-46 feet and swabbed 285 bbls. the first 36 hours, 312 bbls. the next 24 hours and 167 bbls. of oil with some salt water the following 24 hours.

Estimated Production

Estimated production by pools in Oklahoma for the week ended November 24 and for the preceding week follows:

	Barrels— Nov. 24	Nov. 17
Allen	7,525	7,650
Asher-West Asher	1,575	1,575
Burbank	9,100	9,100
South Burbank	9,500	11,750
Balance of Osage	25,000	24,000
Blackwell	4,750	4,750
Bristow-Slick	10,250	10,250
Crescent	3,675	3,850
Cromwell	4,400	4,400
Cushing-Shamrock	13,500	13,500
Chandler district	5,750	5,750
Duncan district	4,300	4,300
Fish	4,175	4,175
Fitts	2,175	2,225
Gray	2,150	2,000
Graham	3,600	3,600
Healdton	9,200	9,200
Hewitt	4,750	4,750
Holdenville	2,475	2,600
Keokuk	1,775	2,025
Konawa	2,000	2,025
Lucien	8,650	7,975
Marshall-Lovell	1,100	1,100
Oklahoma City	136,525	154,875
Papoose	1,250	1,250
Sholem-Alechem	4,100	4,100
Seminole Field:		
Bowlegs	10,825	11,525
Carr City	5,050	5,475
Earlsboro	8,550	9,325
East Earlsboro	8,100	9,450
South Earlsboro	850	1,025
Little River	13,850	14,350
East Little River	725	800
Maud	1,325	1,400
Mission	3,200	3,575
Seminole	9,600	10,250
East Seminole	1,275	1,325
Searight	2,475	2,775
Total Seminole	65,825	71,275
St. Louis-Pearson	19,800	21,900
Tatums	5,700	5,450
Tonkawa-Garber-Thomas	6,250	6,250
Wewoka	4,200	4,200
Yale-Jennings	4,750	4,750
Other pools	61,900	61,925
Total Oklahoma	451,675	478,525

Kay County

Harris & Haun were digging cellar for a wildcat, No. 1 W. A. Schuessler, C NW SW Section 3-28-2, Kay County. Another wildcat will be Lancer Oil Corp.'s No. 1 Hugo Milde, SE NW NW Section 22-

Wildcat Operations in Oklahoma

Week Ending November 24

NORTHERN OKLAHOMA

ALFALFA COUNTY

Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.
T.D. 6,480 ft.; lost tools and S.D.

BECKHAM COUNTY

Fred Coogan et al's No. 1 Shelton, SW cor. Sec. 32-10-25w.
Rigged up and S.D.

CADDO COUNTY

H. W. Lee et al's No. 1 Stacey Ferrell, SW NE NE Sec. 2-16-12w; (2,000-ft. test).
U.R. 12-in. csg.; T.D. 842 ft.

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w.
T.D. 11,230 ft.; fishing for drill pipe.

CLEVELAND COUNTY

Mid-Continent Pet. Corp. et al's No. 1 Collett, C E½ NE SW Sec. 35-10-1w.
Viola lime 6,545 ft.; drlg. 6,555 ft.

COAL COUNTY

Moore & Deaner's No. 1 Edward, NW NE SE Sec. 27-2-8.
Oil Creek sand 7,315 ft.; bailed to 7,000 ft.; 4 bailers of S.W. per hr.

J. D. Petty Oil Co.'s No. 1 McMillan, SW NW NE Sec. 16-1s-8.
Sandy shale at 1,000-34 ft.; S.D.

GARFIELD COUNTY

Ross Cummings et al's No. 1 Gage, SE NW Sec. 27-23-3w.
Spudded and S.D.

GARVIN COUNTY

National Prod. Co.'s No. 1 Littrell, NE cor. Sec. 31-3n-3w.
T.D. 830 ft. S.D.

GRADY COUNTY

Carter Oil Co. and Magnolia Pet. Co.'s No. 1 Harrison C-34, C NW NW Sec. 28-3-5w.
T.D. 7,740 ft.; changing mud.

GRANT COUNTY

Helmerich & Payne's No. 1 Crouse, C NE SW Sec. 29-25-8w.
Skidded rig 60 ft. N; spudded; S.D. for wtr.

HARPER COUNTY

Sinclair Prairie Oil Co.'s No. 1 Neff, NW SE Sec. 21-26-24w.
Top of Mississippi lime 7,030 ft.; T.D. 7,378 ft.; trying to test with packer on drill pipe.

HUGHES COUNTY

Evans & Morris' No. 1 Day, NW NW SW Sec. 30-6-10 (700-ft. test).
Drlg. 550 ft.

Freeman et al's No. 1 Kite, NW NW NE Sec. 6-6-10.
Drlg. 1,540 ft.

Turner et al's No. 1 Williams, SW cor. Sec. 35-7-10.
Rig.

KAY COUNTY

Harris & Haun's No. 1 Schuessler, C NW SW Sec. 3-28-2.
Digging cellar.

Bay Oil Co.'s No. 1 Holden, SW SW SE Sec. 14-28-3.
Drlg. 1,125 ft.

Carter Oil Co.'s No. 1 Fowler, C NE Sec. 12-27-1e.
Drlg. 1,422 ft.

Lancer Oil Corp.'s No. 1 Hugo, SE NW NW Sec. 22-28-5.
Location.

S. R. McCorkle et al's No. 1 Smith, SW cor. Sec. 6-26-4.
Moving in material.

KINGFISHER COUNTY

Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-15-6w.
T.D. 7,612 ft.; drill pipe pulled; S.D.

LEFLORE COUNTY

East Okla. O. & G. Co.'s No. 1 Metcalf, SW cor. Sec. 2-4-26.
T.D. 2,040 ft.; hole caved; S.D.

Murdock et al's No. 1 fee, SW NE SW Sec. 15-5-25e.
T.D. 2,425 ft.; S.D.

LINCOLN COUNTY

Tom Bennett et al's No. 1 Bolby, C SE SW Sec. 27-12-2.
Cored 5,065-81 ft.; S.D. for csg.

R. L. Kemp and Comail Oil Co.'s No. 1 Dooley, NE SW Sec. 20-17-6.
Drlg. 1,540 ft.

Derrickson and Reserve Pet. Co.'s No. 1 Law, SE SW NE Sec. 25-14-3.
Rig on ground.

M. Murray and Ralph Day's No. 1 Rittenhouse, NW NW NE Sec. 26-14-6.
Wilcox 4,280-85 ft.; and 4,298-4,302 ft.; P.B. to 4,302 ft.

Sinclair Prairie Oil Co.'s No. 1 Hoyt, NW SW NE Sec. 5-14-2.
Drlg. 4,028 ft.; set 6-in. at 4,122 ft.

Sinclair Prairie Oil Co.'s No. 1 Boland, SW cor. Sec. 25-13-2.
D.D.; cored 5,479-84 ft.; may abd.

(Continued on Next Page)

28-5, a Mississippi lime test, for which location has been made.

Garfield County

Sinclair Prairie Oil Co.'s No. 1 Murphy A, NE SW NE Section 23-22-4w, Garfield County, was dry and abandoned at 2,300 feet. Lime at 2,195-2,260 feet was acidized.

Noble County

Twin State Oil Co.'s No. 1 DeVore, SW NW NW Section 27-22-2w, Polo Pool, Noble County, had first Wilcox sand at 4,867-4,907 feet and 4,920-25 feet. It flowed 1,392 bbls. of oil in 24 hours and was completed.

Stanolind Oil & Gas Co. and others' No. 3 Voss, NE NW SE Section 28-22-2w, was completed. After drilling into water at 4,887 feet the hole was plugged back to 4,880 feet and the well flowed 826 bbls. of oil in 17 hours, with 2,000,000 feet of gas. This well flowed 960 bbls. in 29 hours from dolomite at 4,825-28 feet and had an increase of oil from Wilcox sand at 4,847 feet and 4,866-69 feet. The Voss is the discovery lease in this pool.

Sinclair Prairie Oil Co. had cellar dug for No. 3 Smith, SE NE NE Section 28-22-2w, and Stanolind Oil & Gas Co. and others had location made for No. 5 Voss, NW SE SE Section 28-22-2w.

In the Lucien Pool, Lucien Consolidated Corp.'s No. 1 R. Hay, C SW NE Section 17-20-2w was completed. It flowed 699 bbls. of oil and 1,000,000 feet of gas from 5,200-10 feet.

Creek County

Completions in Creek County included the following operations with their initial production:

Magnolia Petroleum Co.'s No. 2 Musselman, 660 feet from the west line and 990 feet from north line of NE Section 8-18-7, Cushing Pool, deepened to Bartlesville sand at 2,446-2,515 feet and acidized, pumped 85 bbls. of oil and 50 bbls. of water.

Horton & Greer's No. 1 Morrison, SW SE NE Section 35-18-8, Prue sand at 2,426-32 feet, 6,000,000 feet of gas, 850 pounds rock pressure.

Bay State Oil Co.'s No. 4 Tiger, SE NW SW Section 3-17-8, Layton sand at 1,306-44 feet, shot with 140 quarts, flowed 225 bbls.

Bay State Oil Co.'s No. 3 Harmon, NE SE NE Section 9-17-8, Layton sand at 1,360-1,400 feet, shot with 140 quarts, 125 bbls.

Bay State Oil Co. had rig up for No. 1 Tucker, NE SW NW Section 10-17-8.

Logan County

In the Crescent Pool, Logan County, Eason Oil Co.'s No. 2 Katscher, C NW NE SW Section 34-17-4w, was completed. It swabbed 285 bbls. of oil in 24 hours, following an acid treatment in Wilcox sand at 6,291-6,319 feet, total depth 6,324 feet.

Gypsy Oil Co. & Sinclair Prairie Oil Co.'s No. 1 Manning, a wildcat in C NW NW Section 3-17-4w, was plugged back from 6,411 feet to Layton sand at 4,863-70 feet. It made 18,500,000 feet of gas in 24 hours, but also salt water at the rate of 20 bbls. per hour.

Lincoln County

Home Gas Co. abandoned No. 1 Crane Heirs, 1,175 feet north and 225 feet east of C Section 23-17-6, Lincoln County, an old well deepened from Misener sand to Wilcox sand at 3,177-3,202 feet, which filled the hole with salt water. Same company's No. 2 Crane Heirs, NE SW NE Section 23-17-6, was a hole full of water from Simpson sand at 3,154-58 feet and was also abandoned.

In the Chandler area, Solomon & Cooper's No. 2 Jordan, NW SE NE Section 18-14-4, got a hole full of water from Wilcox sand at 5,050-56 feet and was plugged back to 4,015-56 feet and tested fruitlessly. It was abandoned.

Oklahoma County

In the Edmond Field in Oklahoma County the Marathon Oil Co.'s No. 1 Keefer, NW cor. Section 5-13-5, was deepened to 6,585 feet in green shale, the base of the Wilcox sand having been reached at 6,523 feet, and the well flowed 845 bbls. in 20½ hours, together with 59,800,000 feet of gas. The gas came at a depth of 6,371 feet. This well offsets Stanolind Oil & Gas Co.'s No. 1 Suenram, NE cor. Section 6-13-3w, which early in August started at 1,820 bbls. in 5 hours and 33 minutes, through choke, from Wilcox sand at 6,588-6,667 feet, still in sand. It has not been completed. It flowed 1,230 bbls. through a fifty-sixty-fourths inch choke in eight hours against a 550-pound back pressure about October 15, and was then shut in.

In the Oklahoma City Field Larkin & Warr's No. 1 Katy, CEL NW SE SE Section 34-12-3w, flowed 1,007 bbls. of oil in 10 hours from Wilcox sand at 6,258-6,400 feet. It will be shot. Same operators spudded No. 2 Katy, NW NE SE SE Section 34-12-3w.

Phillips Petroleum Co. completed No. 1 Ownby, NW NW SE Section 22-11-3w, old well plugged back from 6,565 feet to broken Cleveland sand at 5,540-5,770 feet, and shot. It produced 596 bbls. in 24 hours on the gas lift.

Phillips Petroleum Co. and Shell Petroleum Corp. completed No. 8 Berg, NW NE SE SW Section 26-11-3w. It flowed 694 bbls. in 24 hours through a one-half inch choke and with 15,000,000 feet of gas. Wilcox sand was topped at 6,566 feet, total depth 6,630 feet.

Wildcat Operations in Oklahoma

(Continued from Preceding Page)

LOGAN COUNTY

W. N. Anthony's No. 1 Fruin, SE SW Sec. 4-16-1.
Wilcox 5,265-85 ft.; P.B. to 5,181 ft.; will shoot Misener sand.

Gypsy Oil Co. and Sinclair Prairie O. & G. Co.'s No. 1 Manning, C NW NW Sec. 3-17-4w.
T.D. 6,411 ft.; will test Layton sand.

Helmerich-Payne et al's No. 1 Sturgis, SE NW.
Spudding.

Sinclair Prairie Oil Co. et al's No. 1 Dunbar, Sec. 25-15-4w.
Drlg. 3,470 ft.

Sinclair Prairie Oil Co. et al's No. 1 School Land, SE cor. Sec. 36-17-1w.
Drlg. 1,690 ft.

NOBLE COUNTY

Marathon Oil Co.'s No. 1 Gilbert, NE cor. Sec. 24-22-2.
Drlg. 1,034 ft.

OKFUSKEE COUNTY

Delton Oil Co.'s No. 1-A Fixico, SE cor. Sec. 7-11-8.
Calvin sand 2,241-67 ft.; set 2,240 ft.

OKLAHOMA COUNTY

R. Carl Larkin's No. 1 Brobine, NW NW NE Sec. 33-13-3w.
Rigging up rotary.

J. C. Shaffer et al's No. 1 Bullard, SW cor. Sec. 13-13-2w (Wilcox test).
Cellar and rig corners.

Springrose Drlg. Co.'s No. 1 Edwards, C SE Sec. 19-11-1.
T.D. 6,540 ft.; 400 ft. drill pipe in hole; S.D.

OSAGE COUNTY

Peters Pet. Co. and Norbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5.
H.F.W. 3,040 ft.

PITTSBURG COUNTY

McAllister Pet. Co. et al's No. 1 Chunn, 260 ft. N, 633 ft. W of C Sec. 29-4-14.
Rigging up rotary.

P. H. Gray et al's No. 1 Lee, NW SE Sec. 12-5-13.
Drlg. 230 ft.

W. E. Halley's No. 1 Drew, NW SW Sec. 21-3-14.
S.D. 190 ft.

PONTOTOC COUNTY

Charles E. Carter et al's No. 1 Wood, NW SW SE Sec. 5-4-3.
Spudded and S.D.

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-2-6.
S.D. 2,920 ft.

Boyle et al's No. 1 Newbern, SW NE Sec. 31-5-4.
P.B. to 2,080 ft. and shot; H.F.W.; S.D.

Dandridge et al's No. 1 Stafford, NW cor. Sec. 5-1-6e.
T.D. 680 ft.; S.D.

Dixie Oil Co., Inc.'s No. 1 Graham, SW SE SW Sec. 13-1-7.
Rig.

Gillette & Kroeger's No. 1 Robbins, NE SE Sec. 31-1-4.
Rig on ground.

Gillette & Kroeger's No. 1 Duver, NW SE Sec. 36-1n-6e.
T.D. 784 ft.; S.D.

J. D. Sledge and Jack Lynch's No. 1-A (twin) Thompson, SW NE SW Sec. 1-1n-7e.
Hunton lime 3,830-48 ft.; 4,098-4,105 ft.; swbd. 93 bbls. first 3½ hrs., then swbd. every hr. for 8 hrs. and recovered 2½ bbls.; S.D.

Southern Oil Corp.'s No. 1 Ladd, C NW NW Sec. 27-3-7.
S.D. 535 ft.

POTTAWATOMIE COUNTY

Blackgold Pet. Co.'s No. 1 Bizzell, C NE NW Sec. 15-7-3.
Drlg. 3,495 ft.

Moran et al's No. 1 Brinles, SW SW SE Sec. 27-6-5.
Shot with 50 qts. at 2,663-2,700 ft.; dry; will P.B.

SEMINOLE COUNTY

Harris and Haun's No. 1 Harjo, NE SE NW Sec. 11-6-6 (O.W.P.B.).
P.B. to 2,115 ft.; H.F.W.; S.D.

Gypsy Oil Co.'s No. 1 Grayson, SW NW Sec. 13-6-5.
Rig.

Verser & Clay et al's No. 1 Thomas, NE SE NW Sec. 1-6-6.
T.D. 2,100 ft.; rigging up standard tools.

Wofford Drlg. Co. et al's No. 1 Abbott, NE cor. Sec. 33-8-7.
Rig.

Wofford Drlg. Co. et al's No. 1 Thomas, NW SE Sec. 8-6-7.
Cellar and pits.

TEXAS COUNTY (PANHANDLE)

Ben F. Ash et al's No. 1 Guymon Townsite, C NE SE Sec. 30-3n-15e (Cimarron Meridian).
Drlg. 2,175 ft.

WASHITA COUNTY

Anadarko Basin Oil Co.'s No. 1 Wolf, NE SW Sec. 23-9-17w.
Rigged up and S.D.

Okla.-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-18w.
T.D. 2,430 ft.; lost tools in hole; rig rebuilt; S.D.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e.
T.D. 3,709 ft.; S.D. for csg.

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e.
S.D. 1,135 ft.; machine moved out.

L. A. Fitts' No. 1 Blankenship, NE cor. NW Sec. 19-3s-10e.
T.D. 651 ft.; S.D.

Malernee et al's No. 1 D. O. K. Land Co., C SE SE Sec. 35-2s-13.
Drlg. 2,383 ft.

T. C. Ramler et al's No. 1 Roberts, SW SE SW Sec. 6-2s-12e.
S.D. 1,175 ft.

BRYAN COUNTY

Hankin & Williams' No. 1 Slagg, SE SW SE Sec. 20-6s-13e.
T.D. 503 ft.; U.R. csg.

CARTER COUNTY

Daphfine Oil Co.'s No. 1 Hooks, SE NW NW SE Sec. 5-1s-2w.
T.D. 3,281 ft.; P.B. to 2,150 ft.; drlg. plugs.

CHOCTAW COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-6s-20e.
S.D. 810 ft.

COMANCHE COUNTY

F. F. Stevens' No. 1 Green, SE SW Sec. 2-1-13w.
T.D. 1,210 ft.; fishing.

Heiden & Taylor's No. 2 Crutcher, C NE Sec. 11-1n-12w.
T.D. 868 ft.

JACKSON COUNTY

Burk Royalty Co.'s No. 1 Gore, SE NW SE Sec. 3-1s-20w.
S.D. for wtr. at 1,600 ft.

Gypsy Oil Co.'s No. 1 Stokes, SE NW SW Sec. 11-1-20w.
Lime 1,709-11 ft.; T.D. 1,733 ft.; S.D.

Gypsy Oil Co.'s No. 1-A (Twin) Kelly, NE cor. Sec. 10-1n-20w.
P.B. to 1,424 ft.

Gypsy Oil Co.'s No. 1-B Kelly (twin), 330 ft. S and 330 ft. W, SE cor. Sec. 10-1n-20w.
Oil sand 1,412-24 ft.; swbd. 68 bbls. of 43 gravity oil in 12 hrs.

Ben Russell et al's No. 1 Unknown, NW SE Sec. 30-1-22w.
Drlg. 4,740 ft.

JEFFERSON COUNTY

Geo. Pace et al's No. 1 Jack, NE NW NW Sec. 10-4s-4w.
Drlg. 2,963 ft.

H. F. Young et al's No. 1 Boulden, SE SW SW Sec. 1-7-4w.
Rigging up.

JOHNSTON COUNTY

W. A. Delaney et al's No. 1 Diamond, NW NE SE Sec. 5-1s-8.
Location.

Gled Oil Co. et al's No. 1 Ferguson, SW SE NE Sec. 26-2s-8.
Bromide sand 2,434-39 ft.; 1,200 ft. salt and sulphur wtr.

MARSHALL COUNTY

Paul Robb's No. 1 Vittetoe, C NE SE Sec. 11-5s-4e.
T.D. 4,943 ft.; fishing for core barrel.

MURRAY COUNTY

T. E. Revell et al's No. 1 Wolfe, NE cor. Sec. 18-1-2.
Sand 2,658-70 ft.; show of oil; T.D. 2,710 ft.; reaming hole at 2,284 ft.

C. P. Williams et al's No. 1 Singleterry, SE SW NW Sec. 25-2s-2e.
Drlg. 587 ft.

STEPHENS COUNTY

Wm. Angle's No. 1 Johnson, NE cor. SE Sec. 17-1n-8w.
Sand 2,225-30 ft.; showing oil and gas; Csg. collapsed; swaging pipe.

Carter Oil Co.'s No. 1 McCasland, C NW NW SW Sec. 22-1s-4w.
T.D. 5,317 ft.; in shale; bailed 25 bbls. per day.

Dixie Oil Co., Inc.'s No. 1 Graham, SW SE SW Sec. 13-1n-7w.
Rig.

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w.
Rig down, drill pipe in hole; S.D. 2,220 ft.

Atlantic Oil Producing Co. & Gypsy Oil Co.'s No. 4 Delaware, NE SE SE Section 19-9-4, Pottawatomie County, was completed. It started at 488 bbls. of oil per day and 1,000,000 feet of gas from Hunton lime at 4,180 feet, total depth 4,206 feet in Sylvan. The Hunton was shot and acidized.

Little River Oil & Gas Co.'s No. 1-A Stanbach, NE NW NE Section 18-8-7, Seminole County, which swabbed 693 bbls., 50 per cent sediment, initially from Cromwell sand at 3,221-31 feet, was completed.

Maud Oil & Gas Co. abandoned its No. 1 Smith, NE NE NW Section 2-7-4, South St. Louis area, Pottawatomie County. It was a small producer in Hunton lime at 4,074-4,118 feet after an acid treatment. It was bottomed at 4,123 feet in Sylvan shale.

Seminole Pipe & Supply Co. completed No. 1 Douglas, SW SE NW Section 10-7-4, an Earlsboro sand well at 3,501-53 feet, shot twice, and producing 37 bbls. initially.

Wyatt's No. 2 Smith, SE NW SE Section 26-7-4, deepened from 3,494 feet to Viola lime topped at 4,050 feet, total depth 4,190 feet, is a 50-bbl. completion. It also produced 40 bbls. of water per day.

Bryan Petroleum Co. acidized its No. 1 Green, NW SE NE Section 33-7-4, and completed it after it made an initial production of 332 bbls. in 48 hours. It produces from dolomite at 4,111 feet, total depth 4,168 feet.

In the Holdenville district, Hughes County, Elliott and the Shell Petroleum Corp. completed No. 6 Pickens in Calvin sand at 1,170-90 feet, a 3-bbl. well after a shot. The Limestone Oil & Gas Co. also got a small Calvin sand producer at 1,198-1,211 feet in No. 14, C W half NE NE Section 15-7-8, starting at 5 bbls. Los Angeles Petroleum abandoned No. 1 Jaskett, SE SE SW Section 15-7-8, at 712 feet.

On the Seminole side of the Fish Pool, Pittsburg Pipe & Supply Co. completed a 4-bbl. well deepened from Calvin sand to a sand at 1,825-66 feet.

New work in the Greater Seminole area included Magnolia Petroleum Co.'s No. 2 Williams, NW SE NW Section 18-8-7, a rig; Wofford Drilling Co. and others' No. 1 Abbott, NE cor. Section 33-8-7, a rig; E. W. Jones' No. 1 Brandenburg, SE SE SW Section 3-7-4, rigging up rotary; Empire Oil & Refining Co.'s No. 2 Davis, SE SE NE Section 30-7-8, a location; Slick-Urschel, Inc.'s No. 3 Reed, SW NW SE Section 31-7-8, rigging up rotary; Champlin Refining Co.'s No. 2 Wolf, SW NW NW Section 32-7-8, location; Inglehart and others' No. 1 Houck, NW SW NW Section 1-6-4, rig on ground; Gypsy Oil Co.'s No. 3 Gray, C N half N half SW Section 25-6-4, rig; Gypsy Oil Co.'s No. 1 Grayson, SW SW NW Section 13-6-5, rig; Wofford Drilling Co. and others' No. 1 Thomas, NW NW SE Section 8-6-7, a wildcat, cellar and pits; Mudge Oil Co.'s No. 1 Pompey, C S half SW NE Section 9-6-7, rigging up machine; Hall & Gentner, No. 1 Townsite, NW SE NW Section 36-6-7 (corrected location), cellar and pits.

Pontotoc County

Pierce Drilling Co.'s No. 1 Flatt, NW NE SE Section 36-5-4, Pontotoc County, found sulphur water in the top of Wilcox sand at 2,925 feet and abandoned the hole.

Sinclair Prairie Oil Co. was drilling at 580 feet in No. 1 Gordon B, SE SE NW Section 19-5-5, and the Oklahoma Oil Corp. was drilling at 660 feet in No. 1 Jennie, SW SW SE Section 24-5-5, both first reports.

The Brydia Oil Co.'s dry hole, No. 1-A Haynes, SE NE SW Section 32-5-5, was incorrectly reported as in Section 32-4-4.

Sulmac Oil Co. was drilling at 465 feet in No. 1-A Hart, NE SW NW Section 27-5-6, a first report.

Mexhoma Oil & Gas Co.'s No. 1-A

(Continued on Page 56)

Three New Operations Started in Rainbow Field, Arkansas, as Result of Well's Good Showing

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Nov. 26.—Tangible results of drilling activity in the North Louisiana, Arkansas and Mississippi districts during the past week were confined to the proven areas. In the former, a 1-mile extension to the east of gas production from the Glen Rose horizon in the upper Trinity in the Sligo Field, Bossier Parish, featured the completions. The Arkansas district was further pushed into the limelight by a second well in the Rainbow Field encountering the new sand, and having all indications of being as good or better producer than the original well in this horizon which was completed last week.

In the Rainbow Field, 10 miles northeast of El Dorado, Union County, Arkansas, the Alice Sidney Oil Co.'s No. 7 Gregory, Section 11-17-14, made a drill stem test from 3,314-58 feet. In six minutes, the test developed an estimated flow of 500,000 feet of gas and pipe line oil at an estimated daily flow of 3,000 bbls. Casing is being set above the sand encountered at 3,353 feet with a 5-foot penetration to the total depth of 3,358 feet. The new producer was deepened from the Gregory sand about 160 feet above to the new pay zone which has been termed in local oil circles the Taylor sand. The second producer from this horizon extends production about one-half mile southeast and adds confidence to operators in that district, many of whom had been skeptical of consistent producers from the new paying sand, due, no doubt, to the spotted condition of the upper and original pay zone.

Three New Operations

The confidence inspired by the last operation is demonstrated by three new operations in the field to augment three announced last week. T. L. James & Co., Inc., of Ruston, La., has staked location for its No. 1-A Perdue in Section 10-17-14, about one-half mile north of the Short & Hayes discovery well. The Bellevue Corp., headed by Harry I. Morgan of Shreveport, the contractor on the discovery well, is arranging to drill No. 1 J. M. Gregory in the center of SE SW NE Section 10-17-14. The S. H. A. Oil Co. is rigging up to drill an offset to the No. 1 Taylor. In addition to the new holes, many old wells are preparing to deepen to the Taylor sand, the Skelly Oil Co. and H. L. Hunt being among the original operators to re-enter the Rainbow Field.

The Arkansas district reported two completions, one a wildcat failure and the other a small pumper in the Miller County Field. F. E. Galbreath's No. 1 Pearce, Section 7-17-20, Columbia County, was abandoned as dry at 3,450 feet. Magnolia Petroleum Co.'s No. 5 Olivet, Section 3-16-26, came very near being a failure in the limited Miller County Field. The well is pumping 40 bbls. of oil and 60 bbls. of salt water from a total depth of 2,940 feet.

A test started in Lonoke County more than a year ago and shut down during the greater part of this time was abandoned at the shallow depth of 820 feet. The test was listed as Joe G. Strahan's No. 1 Hardin in Section 18-2s-7w. In the Miller County Field, Ed Donohue's No. 1 Beck, Section 33-15-26, is arranging to set casing on top of 2 feet of sand encountered at 2,923 feet.

The wildcats in the Arkansas district made slow and uninteresting progress during the past seven-day period. The Arkansas Drilling Co.'s No. 1 Jones, Section 11-14-24, Hempstead County, is arranging to test at 2,995 feet. In the same county, F. W. Martin & Co.'s No. 1 Lafferty, Section 17-14-24, has recovered 2,200 feet of stuck drill stem and plugged the hole back to that depth from the old total depth of 3,700 feet. Arrangements are being made to test a shallow sand with a reported oil show from 2,000 to 2,200 feet. In Lafayette County, A. H. Tarver's No. 1 Russell, Section 12-17-25, a test that is being closely watched, topped the Nacatoch at 1,676 feet and is drilling ahead. The wildcat is being drilled primarily to test the Blossom sand. A few miles northeast of the Tarver well, Benedum & Trees' No. 2 Bodcaw Lumber Co., Section 19-16-23, is fishing for 1,400 feet of drill stem with the bottom of the hole at 4,719 feet.

NORTH LOUISIANA

Of the six completions reported from this district, two were gas wells, two small pumping oil wells and two dry holes. The United Gas Public Service Co.'s No. 1 Herold Unit, Section 13-17-12, in the northeastern Sligo Field extension, Bossier Parish, gauged 11,200,000 feet of gas from total depth of 4,369 feet. The rock pressure registered in excess of 1,800 pounds, and the gas is highly saturated as is the case with all upper Trinity gas in the North Louisiana district. Another good gasser northeast of the original field is indicated by the Producers Oil & Gas Co.'s No. 1 W. H. Werner in Section 7-17-11. Four and one-half-inch casing was set to test intermittent blowouts of gas from a total depth of 3,990 feet. In the Ouachita Parish area of the old Monroe Field, James A. Noe's No. 1 C. G. Wall, Section 25-19-3e, gauged an initial flow of 1,500,000 feet of gas with 905 pounds rock pressure from 2,160 feet.

The shallow Bellevue Field, Bossier Parish, which was reopened recently reported one small pumper. Premier Investment Co.'s No. 15 Wyche, Section 14-19-11, is pumping 50 bbls. of fluid, 50 per cent of which is salt water from 420 feet. In the Zwolle area of Sabine Parish, Pelican Natural Gas Co.'s No. 37 Louisiana Long Leaf Lumber Co., Section 8-7-11, is a 20-bbl. pumper from 2,700 feet. A Bossier Parish wildcat, a few miles northeast of the city of Shreveport, was finally abandoned as a dry hole. John T. Anderson, trustee's No. 1 Leonard, Section 19-19-13, is dry at 3,762 feet, but a heavier rig may be put on the location later on to deepen. The only wildcat drilling in Caldwell Parish, Terrill & Price's No. 1 Louisiana Central Lumber Co., Section 18-11-3e, was abandoned as a dry hole at 3,845 feet.

Seven new operations were staked in the North Louisiana district, but none of them was important from a wildcatting standpoint. Outside of a few key wildcat wells that have caused interest, drilling operations in this district have experienced a lull during the past two months due to the extreme drought in this section. Many wells have been shut down for lack of drilling water, but with heavy rains falling generally over the district during the past week, drilling operations are expected to show a steady increase. An interesting wildcat in Bienville Parish, Saline Drilling Co.'s No. 1 Pardee, Section 27-14-6, has resumed operations after setting 10-inch surface casing at 142 feet and is drilling at 600 feet. It is rumored that Benedum & Trees will drill another deep test in Bienville Parish, south and east of a recent dry hole, abandoned at the 5,000-foot level. This test is north of the wildcat of the Saline Drilling Co. and both should attract attention from many operators who believe that one or more fields may be found on the eastern flank of the Sabine uplift in Bienville Parish. In the southwestern part of Sabine Parish, Tex-La-Ark Oil Co.'s No. 1 Pickering Lumber Co., Section 3-3-12, is coring at 2,460 feet. Due to its geographical location with respect to the Sabine Parish fields and the several showings in wells in Shelby County, East Texas, the wildcat has been looked upon as one of the hot ones in this district.

MISSISSIPPI

The United Gas Public Service Co.'s No. 1 Greene School Land, Section 16-1n-5w, Greene County, is drilling in sand and shale at 3,650 feet. This is the second deep test for this company in this county during the year. In Harrison County, Big Ridge Oil Co.'s No. 1 Hingin, Section 13-7s-10w, is drilling in sandy shale at 1,050 feet. The city of Canton which, it is reported, proposes to put in a municipal gas plant, is drilling at 2,373 feet on its No. 2 Belhaven, Section 35-6n-1e, in the Jackson Field. Canton is located about 30 miles north of the Jackson gas area. An Issequena County wildcat and one in Monroe County are the only other active operations in this district during the past week. In the former, Pelican Oil & Gasoline Co.'s No. 1 Martin & Bender, Section 11-12n-8w, is drilling in gummy shale at 1,305 feet. P. J. McAlpine's No. 1 Frank Rye, Section 15-15s-17w, Monroe County, and about 15 miles from the Amory gas field, is drilling in hard sand at 2,280 feet.

MISSISSIPPI

D. C. Shaffer and others of Memphis, Tenn., have completed a block of approximately 20,000 acres of Form 88 leases, which have been duly recorded, centering on Section 31-19-7, in Montgomery County, Mississippi. This block parallels the Columbus & Greenville Railroad right of way and Highway 82. Structural conditions on the block are claimed to be like those between Louann and Stephens, Ark. The only test well drilled in this county by the Preston Oil Co., Columbus, Ohio, developed in the Woodbine sand a showing of high gravity oil. An early test well will be spudded in on land located in Section 31-19-7, on the dome or apex of the structure.

PRODUCTION ESTIMATE

The estimated daily average production of North Louisiana and Arkansas for the week ending November 24 was as follows:

NORTH LOUISIANA

	Bbls.
Bellevue	515
Caddo light	4,450
Caddo heavy	1,635
Converse	1,415
Cotton Valley	490
DeSoto and Red River	1,545
Elm Grove	365
Haynesville	3,755
Holly	155
Homer	2,680
Pleasant Hill	185
Sarepta-Carterville	600
Urania	3,360
Zwolle	2,895
Total	24,045

SOUTH ARKANSAS

Champagnolle*	1,850
El Dorado	2,270
Lisbon	355
Miller County	1,265
Nevada	890
Smackover light	2,315
Smackover heavy	18,940
Stephens	630
Urbana	2,300
Total	30,915

*Increase in Champagnolle caused from a well drilled to a deeper sand which is now about same gravity.

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Bell Oil Co.'s No. 1 Woodley, 330 ft. S and W NE cor. NW Sec. 11-3n-5e.
Washing to bottom 1,700 ft.

BIENVILLE PARISH

M. V. Duncan et al's No. 1 Hutton, 400 ft. S, 330 ft. E, NW cor. Sec. 4-18-7.
Set 10-in. 125 ft.

Saline Drlg. Co.'s No. 1 Pardee, Sec. 27-14-6
Drlg. 600 ft.

BOSSIER PARISH

Goldman & Sklar's No. 4 Caplis, 1,527 ft. S, 1,482 ft. E, NW cor. Sec. 25-16-12.
W.O.S.R. 1,559 ft.

Howard & Baird's No. 1 Gold, 150 ft. S and E, NW cor. Sec. 36-20-13.
S.D. for water 1,126 ft.

W. A. Kirkland's No. 1 Jarrett & McKeller, 330 ft. N and W, SE cor. NW NW Sec. 3-21-13.
Set 10-in. 43 ft.

Plain Dealing Synd.'s No. 1 S. H. Bolinger, Sec. 35-23-15.
Set 10-in. 63 ft.

Producers O. & G. Co.'s No. 1 Weiner, 660 ft. N and W, SE cor. Sec. 7-17-11.
S.D.; W.O. 3,990 ft.

Leonard Co.'s No. 1 Pearson, 250 ft. S and E. of C Sec. 32-21-14.
Set 4½-in. 3,385 ft.; T.D. 3,990 ft.

United Gas Pub. Service Co.'s No. 1 Herold Unit, 50 ft. S and W, NE cor. SW SE Sec 13-17-12.
Comp.; 11,200,000 ft. gas 4,369 ft.

Woodley Pet. Co.'s No. 5 Schuler, 560 ft. N, 660 ft. E. SW cor. NW Sec. 13-17-12.
Set 13¾-in. 237 ft.

CADDO PARISH

Ark.-La. Tex. O. & G. Co.'s No. 1 LeRosen, 990 ft. E. 330 ft. N, SW cor. NW Sec. 15-20-15.
Derrick.

W. T. Bell et al's No. 1 Bostick, 1,320 ft. E. 660 ft. N, SW cor. Sec. 12-23-16.
S.D. for water. 2,540 ft.

Burkett O. & G. Co.'s No. 1 Lindholm, 400 ft. S and E, NW cor. NE SE Sec. 15-17-14.
S.D. 1,046 ft., repairing rig.

O. L. Hickman's No. 1 fee, 1,046 ft. S. 1,-700 ft. E. NW cor. Sec. 36-17-15.
Drlg. 2,500 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E. 375 ft. N, SW cor. SE Sec. 4-14-16
S.D. 2,128 ft.

M. Rodgers' No. 4 Muslow, 1,495 ft. S, 1,-270 ft. W, C Sec. 4-20-15.
Drlg. 700 ft.

G. R. Stevens' No. 1 Hart, 300 ft. N and E, SW cor. E½ SW Sec. 22-21-16.
Set 10-in. 38 ft.; drlg. 680 ft.

Shreveport Oil Corp.'s No. 3-B Muslow, 742 ft. E, 710 ft. S, NW cor. Sec. 4-20-15.
Drlg. 2,140 ft.

Leonard Co.'s No. 4 S. P. Harrell, 220 ft. N and W, SE cor. NW SW Sec. 2-21-16
Set 6⅝-in. 1,044 ft.

CALDWELL PARISH

Terrell & Price's No. 1 La. Central Lbr Co., 300 ft. N, 300 ft. W, SE cor. NW NE Sec. 18-11-3e.
Dry and abd. 3,845 ft.

CATAHOULA PARISH

T. R. Hincy's No. 1 La. Central Lbr. Co., Sec. 32-9-4e.
S.D. for D.S. 1,541 ft.

DE SOTO PARISH

L. H. Alderson's No. 1 Peek, SE cor. NW NE Sec. 25-11-13.
Drlg. 300 ft.

Bayou Pierre Oil Co.'s No. 1 B. Y. Womple, C SE NE SW Sec. 14-12-11.
Bailing to test 2,731 ft.

Century O. & Drlg. Co.'s No. 1 Morton, 300 ft. N and E SW cor. SE NE Sec. 27-11-14.
S.D. 1,760 ft.

W. T. Coleman's No. 1 Rambin Est., 300 ft. S and E, NW cor. SW SE Sec. 13-12-12.
S.D. for wtr. 460 ft.

Dempsey & Manniel's No. 1 Thigpen, 375 ft.

(Continued on Page 75)

New Pool in Ellsworth County Divides Interest With Haury-Burrton Pool in Reno County

By JAMES McINTYRE

The Haury-Burrton Pool in Reno County continued to show the largest initial producers completed or nearly completed in Kansas in the past week. It is the one big flush area in the State at this time.

The Twin Drilling Co. and others' discovery in Section 13-17-9w, Ellsworth County, was last reported standing with a hole full of oil from the top of Siliceous lime. It is described as No. 1 Rolfe, SW NW SW Section 13. Siliceous lime was topped at 3,200 feet and was at first drilled in only 1 foot. The well was swabbed two hours, made 40 bbls. per hour of what is said to be 45 gravity crude. It was then deepened to 3,205 feet and swabbed 124 bbls. in three hours. The hole filled to the top in six hours after the last mentioned swabbing test. It is now shut down awaiting the erection of tankage. John Hanna and John Stark are partners with the Twin Drilling Co. in the operation. The test has been running high ever since it hit the first marker. It is believed to have definitely opened a pool and the acreage all about the well has been sewed up tightly, the lease play having begun some time ago.

Estimated Production

Estimated daily average production of Kansas for the week ended November 24 and for the preceding week follows:

	Barrels	
	Nov. 24	Nov. 17
Hollow	6,300	6,375
Ritz-Canton	10,175	10,500
Voshell	5,450	5,200
Johnson	1,818	1,785
Sedgwick County	7,500	7,375
Nikkell	5,250	5,275
Ellsworth County	3,272	3,230
Barton County	1,090	1,505
Rice County	13,766	13,487
Reno County	9,412	11,345
Ellis County	480	465
Kingman County	1,405	1,125
Stafford County	1,862	1,440
Russell County	7,193	7,400
Greenwood County	11,250	11,250
Butler County	18,900	19,100
Other pools	17,727	16,933
Total Kansas	122,900	123,900

Sumner County

Wentz Oil Corp.'s No. 1 Horsley, CSL SW SW SW Section 18-35-1, Sumner County, was abandoned. Wilcox sand at 3,894-97 feet, total depth, filled the hole to a height of 2,000 feet with salt water.

Cowley County

J. Sooby completed Nos. 1 and 2 Gardner, in Section 16-32-5, as gas wells, one good for 338,000 feet and the other for 49,000 feet, as reported last week.

Elk County

White Star Oil Co. was drilling at 400 feet in No. 1 Mann, SE NE NE Section 22-31-10, Elk County.

Sedgwick County

The promising wildcat of D. R. Lauck and others, No. 1 F. A. Roy, NE NE SW Section 24-29-1w, Sedgwick County, is definitely a failure. It was drilled to Siliceous lime at 3,833-58 feet and the hole filled with water. Pipe was being plugged preparatory to abandoning the test.

E. B. Shawver's No. 3 Russell, SE SW SE Section 16-28-1e, is a 221-bbl. completion in chat pay at 3,084-3,110 feet, which had been acidized.

Dickey Oil Co.'s No. 4 Nolan, SE NE NE Section 20-28-1, was completed. It started at 265 bbls. at 3,078-3,119 feet, acidized.

Shell Petroleum Corp.'s No. 9 Fisher, 990 feet south and 1,344 feet west of NE cor. Section 15-26-2, pumped 878 bbls. of oil and 1,250 bbls. of water from Viola lime at 3,199-3,201 feet, acidized. It was completed.

Spencer & Trimmer had material in for No. 1 Owens, SE NE SW Section 17-28-1, and Dickey Oil Co. was moving in to start No. 1 Cook, NE NE NW Section 20-28-1. Same operators' No. 1 Cook, NE SE NW Section 20-28-1, flowed 452 bbls. of oil in nine hours from chat at 3,071-3,112 feet which had been acidized.

Butler County

H. Garden and others were rigged up to deepen No. 1-A Crowley, 1,150 feet south and 270 feet east of C Section 14-28-5, Butler County. Old total depth is 2,112 feet.

Saco Oil Co.'s No. 1-A Dohern, C NE NE Section 14-25-3, was dry and abandoned at 1,504 feet.

George Hinkle's No. 1-A Joseph, SE cor. Section 25-24-3, pumped 133 bbls. in 24 hours from Mississippi lime at 2,690-91 feet, acidized, and was completed.

Harper County

Sam Jarvis and others have rig up for a test in No. 1 Morrisse, C SE NE Section 23-20-10w.

Reno County

Johnson & Carey and others have made a location for No. 1 Dyck, SE NE SE Section 35-22-5w.

Skelly Oil Co. completed No. 2 Sabin, SE NE SW Section 11-23-4w, in the Haury-Burrton Pool, in Reno County. It was acidized in Hunton lime at 3,588-96 feet and flowed 761 bbls. by heads in 24 hours.

Barnsdall Oil Co.'s No. 2 Sabin-C, SW NW SE Section 11-23-4w, the first well to find production in the Siliceous lime in the Haury-Burrton Pool, was given a 1,000-gallon acid treatment at 3,775-84 feet and pumped 1,385 bbls. of oil in 22 hours. It was then shut down for orders.

National Union Oil Co.'s No. 2 Ackley, NW NE SE Section 13-23-4w, flowed 4,060 bbls. in 24 hours from Hunton lime at 3,591-98 feet. It was not completed.

Olson Oil Co. and Shell Petroleum Corp.'s No. 2 Duckworth, C NE NE Section 23-23-4w, had chat at 3,253 feet, set 8-inch casing at 3,266 feet, and have a 12,000,000-foot gas production at a total depth of 3,312 feet.

Amerada Petroleum Corp.'s No. 1 Wilson, SE SW SW Section 23-23-4w, flowed 960 bbls. in 24 hours from Hunton at 3,604-10 feet, total depth. It had not been treated with acid and is not a completion.

Olson Oil Co. and Shell Petroleum Corp. completed No. 2 Fast, C SW SE Section 25-23-4w. It flowed 272 bbls. of oil and 15 bbls. of water from chat topped at 3,284 feet, first oil at 3,323 feet, total depth 3,370 feet.

There are 13 wells drilling or in the pay in the pool, and 9 locations made on which work has reached the cellar, rig or rigging-up stage.

New work reported in the past week includes Derby Oil Co.'s No. 2 Ackley, NW NW SE Section 14-23-4w, cellar; Sinclair Prairie Oil Co.'s No. 1 Horner, NE NE SW Section 14-23-4w, cellar; and Gypsy Oil Co.'s No. 5 Krehbiel, C SW NE Section 35-23-4w, rigging up.

Greenwood and Woodson Counties

C. Sheedy and others were at a total depth of 1,504 feet with 600 feet of fluid in the hole in No. 1 Ledge, NW NE NE Section 28-25-13, Woodson County.

Oko Oil Co. was rigging up No. 9 Keidler, 600 feet north and 200 feet from west line of NE Section 15-23-13, Greenwood County, and Hollis Brothers were drilling at 670 feet in No. 1-A Jensen, NW NW SE Section 33-23-13.

Slick, Pryor & Lockhart, Inc.'s No. 3 Leedy, NW SW NE Section 25-22-9, is a 120-bbl. completion at 2,473-2,506 feet.

Harvey County

Mabee Consolidated Corp. and Shell Petroleum Corp.'s No. 2 Nikkell-B, NW SW SW Section 8-22-3w, Hollow Pool, Harvey County, was plugged back from Viola to Hunton lime at 3,409-54 feet, and given two small shots and a 2,000-gallon acid treatment. It swabbed 5 bbls. per hour on last report.

Rice County

Slick, Pryor & Lockhart's No. 6 Schurr, in the Schurr Pool in Rice County, has Siliceous lime at 3,295-3,300 feet, total depth, and it pumped 150 bbls. of oil and 60 bbls. of water. Texas Co.'s No. 6 West, NW cor. Section 21-20-10w, stood with 1,750 feet of oil in the hole from Siliceous lime at 3,343-44 feet, total depth.

Phillips Petroleum Co. completed No. 1 Link, SW NW SW Section 21-19-9w,

Wildcat Operations in Kansas

Week Ending November 24

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Lario O. & G. Co.'s No. 1 Whelan, C NW Sec. 32-31-11w.
Chat 4,355-4,435 ft.; P.B. to 4,382 ft.; pumped 100 bbls. oil, 100 bbls. wtr.

Sam Jarvis et al's No. 1 Morrisse, C SE NE Sec. 23-30-10w.
Rig.

BARTON COUNTY

D. I. Hall et al's No. 1 Arnold, SE SE SW Sec. 19-18-15w.
Rig.

Murphin and Davis' No. 1 Lanterman, NW SE Sec. 15-19-11w.
T.D. 2,650 ft.; running 8-in. csg.

C. L. Price et al's No. 1 Ehrlich, NW SE Sec. 10-16-13w.
T.D. 360 ft.; fishing.

Treleaven & Brimm et al's No. 1 Haas, SW cor. Sec. 30-18-15w.
Drlg. 1,480 ft.

Walter Shearen et al's No. 1 Kempler, SE NE NE Sec. 31-18-11w.
S.D. 300 ft.

BUTLER COUNTY

Gaines et al's No. 1-A McKinley, NE NE SE Sec. 19-29-4.
T.D. 1,950 ft.; 150 ft. fluid in hole.

Seibel, Great Basin Oil Co. et al's No. 1-A McKinley, NE SE Sec. 19-29-4.
K.C. lime 1,888-1,915 ft.; will acidize.

F. H. Unruh et al's No. 1-A Joseph, SE SW NW Sec. 18-25-4e.
Rig.

CLAY COUNTY

Seidel Bros.' No. 1 Younken, C S½ SE NW Sec. 21-9-4.
T.D. 1,391 ft.; U.R. 8-in. csg.

Severs et al's No. 1 Meyers, NE NW NW Sec. 4-10-4.
Mississippi lime 1,775 ft.; T.D. 1,834 ft.

COWLEY COUNTY

Ben Gralapp's No. 1 Kukuk, SW SW NW Sec. 6-33-4.
T.D. 1,125 ft.; U.R. 12-in. csg.

Otstot et al's No. 1 Eckhardt, SE NW Sec. 15-35-6.
Spudded and S.D.

DICKINSON COUNTY

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
Set 8-in. csg. 2,500 ft.; C.O.

ELK COUNTY

Lassen's No. 1 Ferguson, SE SE SW Sec. 21-30-8.
Drlg. 1,105 ft.

ELLSWORTH COUNTY

Ainsworth Bros.' No. 1 Charvat, NE NW NE Sec. 33-15-10w
Viola 3,212 ft.; set 6-in. csg. 3,252 ft.; drlg. 3,262 ft.

Lario Oil & Gas Co.'s No. 1 Harbalek, SW NW Sec. 7-16-10w.
H.F.W. 3,304 ft.; abd.

GREENWOOD COUNTY

Greeley et al's No. 1 Satler, SW SE SW Sec. 28-25-12.
S.D. 825 ft.

Kite et al's No. 1 Jamison, SW SE NE Sec. 30-26-13.
Drlg. 178 ft.

Texas Co.'s No. 1 Edwards, NE NW NE Sec. 32-24-12.
T.D. 1,100 ft.; fishing.

HARVEY COUNTY

O. J. Connell et al's No. 1 Roth, SW cor. Sec. 16-22-2w.
Spudded and S.D.

Imo O. & G. Co. et al's No. 1 Sperling, SE NE NE Sec. 33-22-2.
8-in. csg. 2,170 ft.; drlg. 2,190 ft.

Wenzel et al's No. 1 Schrag, NW SE Sec. 24-22-3w.
T.D. 587 ft.; S.D. for csg.

McPHERSON COUNTY

C. W. Lamer et al's No. 1 Rolander, NE NE NW Sec. 8-18-2w.
T.D. 2,375 ft.; U.R. 8-in. csg.

Roth-Farout et al's No. 1 Bestwater, SE SW SE Sec. 23-20-1w
Running 8-in. csg.; T.D. 2,739 ft.

NESS COUNTY

Texas Co. and Gypsy Oil Co.'s No. 1 Goodman, C SW SW Sec. 21-19-23w.
Spudded.

OSAGE COUNTY

Jim Edwards' No. 1 Detrich, C NW SE Sec. 21-14-15.
Spudded and S.D.

OSBORNE COUNTY

Carmen & Hershey's No. 1 Fritz, C NE NE Sec. 9-10-14w.
T.D. 3,357 ft.; fishing.

RENO COUNTY

Foraker et al's No. 1 Hiett, SE SW NE Sec. 34-24-4w.
S.D. 625 ft.

Johnson & Carey et al's No. 1 Dyck, SE NE SE Sec. 35-22-5w.
Location.

McBride et al's No. 1 Popp, SW SW NE Sec. 32-24-4w.
Drlg. 3,811 ft.

Trivett Drlg. Co.'s No. 1 Crotts, NE NW NE Sec. 27-26-10w.
H.F.W. 2,422 ft.; T.D. 2,452 ft.; U.R. 8-in. csg.

RICE COUNTY

Foraker, Nickerson et al's No. 1 Lyon, SE NW Sec. 27-20-8w.
T.D. 1,060 ft.

Gypsy Oil Co.'s No. 1 Dotson, SW SW NW Sec. 25-20-10w.
Bldg. rig.

Lario O. & G. Co. and Reserve Pet. Co.'s No. 1 Shepherd, SW SW NW Sec. 18-22-5w.
Set 15-in. pipe 235 ft.; T.D. 305 ft.

Lario O. & G. Co. et al's No. 1 Schrag, NW SE SW Sec. 22-19-4w.
Drlg. 635 ft.

Marathon Oil Co.'s No. 1 Kline, SW SE Sec. 19-14-24w.
Set 10-in. 3,408 ft.; drlg. 3,755 ft

Stofford et al's No. 1 Krehbiel, NW NW SE Sec. 27-21-3w. (O.W.D.D.)
C.O. at 2,080 ft.

Stark & Well's No. 1 Smith, NW cor. Sec. 36-19-8w.
Location.

Twin Drlg. Co. et al's No. 1 Rolfs, SW NW SW Sec. 13-17-9w.
3,100 ft. oil in hole; Siliceous lime 3,200-01 ft.

Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w.
Show of oil 2,890-2,906 ft.; S.D.

Yingling et al's No. 1 Maupin, NW SW SW Sec. 1-18-8w.
S.D. 3,020 ft.; H.F.W. 2,970-90 ft.

ROOKS COUNTY

Stearns & Streeter's No. 1 Meyers, NE NW NW Sec. 34-9-16w.
Set 12-in. csg. 879 ft.; anhydrite at 1,088 ft., T.D.; U.R. 12-in. csg.

RUSH COUNTY

Corbett, Barbour et al's No. 1 Schmidt, SW SW SE Sec. 10-17-16w.
T.D. 3,495 ft.; running 6-in. csg.

Flynn et al's No. 1 Hartman, SW SE NW Sec. 4-18-16w.
Location.

Lario O. & G. Co. and Phillips Pet. Co.'s No. 1 Benbow, NW NE NE Sec. 12-17-19w.
Rigging up.

RUSSELL COUNTY

Blair et al's No. 1 Fink, SW NW SE Sec. 16-14-14w.
Rigging up.

(Continued on Page 73)

in Siliceous lime at 3,209-14 feet, total depth, and it pumped 1,189 bbls. in 18½ hours. It had not been acidized.

Keith and others' No. 1 Grove, SE SE NW Section 22-19-9w, an old well deepened from 3,241 feet to 3,244 feet, made 1,360 bbls. of oil in an 18-hour potential test.

Shell Petroleum Corp.'s No. 2 Ploog, 1,320 feet north and 440 feet west of SE cor. Section 33-18-9w, set 6-inch pipe on top of Siliceous lime at 3,270 feet and drilled in 2 feet. The well swabbed 405 bbls. of oil and 15 bbls. of water in 17½ hours.

Continental Oil Co. completed No. 1 Kimple, SE SE NW Section 25-18-8w, in Siliceous lime at 3,149-75 feet. It pumped 1,896 bbls. in 24 hours. It has not been acidized.

First reports of new work in the county included Slick, Pryor & Lockhart's No. 7 Schurr, SE NW SW Section 21-20-10w, ponds dug; Gypsy Oil Co.'s No. 1 Dotson, SW SW NW Section 25-20-10w, building rig; Sinclair Prairie Oil Co.'s No. 2 Volkland, SE cor. Section 20-19-9w, rig on ground; Phillips Petroleum Co.'s No. 3 Link, SE NW SW Section 21-19-9w, rig on ground; Hinkle and others' No. 1 Mehl, NE NE SW Section 27-18-10w, rig.

Ellsworth County

Slick, Pryor & Lockhart, Inc.'s No. 2 Breford, SE SW NW Section 7-17-10w, Ellsworth County, is not a completion, but is estimated to be good for 350 bbls. from Siliceous lime at 3,352-83 feet.

Twin Drilling Co. and others' wildcat test, No. 1 Rolfe, SW NW SW Section 13-17-9w, opens another Siliceous lime pool in Ellsworth County. Six-inch casing was set at 2,975 feet; there was a showing of oil at 3,060 feet; Siliceous lime was topped at 3,200 feet and penetrated only 1 foot. Five-inch liner was set at 3,201 feet. The hole filled 3,100 feet with oil in 24 hours.

Lario Oil & Gas Co.'s No. 1-A Harbarek, SW SW NW Section 7-16-10w, was a hole full of water from Siliceous lime at 3,394 feet and was abandoned. It had an oil showing at 3,375-85 feet.

Spangler and others' No. 1 Reed, NW NE NW Section 23-16-7, was completed as a gas well at 333-410 feet, total depth. It showed for 500,000 feet of gas in 24 hours.

Russell County

Phillips Petroleum Co.'s No. 1 Holland, SW cor. Section 13-14-15w, Russell County, was completed. It pumped 555 bbls. per day from Siliceous lime at 3,220-25 feet. It was not acidized.

Tom Palmer's No. 2 Steinle, SW cor. Section 22-13-14w, was acidized in Siliceous lime at 3,265-73 feet and later pumped 1,898 bbls. in 24 hours. It was completed.

R. C. Tarrant abandoned the location for No. 1 Roxberger, NE cor. Section 33-13-14w.

Central Oil Co. and T. C. Johnson's No. 3-A Sutton, SW NE SW Section 5-12-15w, is a 40-bbl. completion in Oswald lime at 2,765-2,809 feet, which had been acidized.

Ashby's No. 1 Whitson, NW SW SW Section 16-11-15w, deepened from 3,175 feet to a pay at 3,204-08 feet and acidized. It pumped 402 bbls. of oil in 24 hours and was completed.

McPherson County

Shell Petroleum Corp.'s No. 5 Koehn, SE NW NE Section 16-21-3w, Voshell Pool, McPherson County, was completed. It pumped 363 bbls. initially from Wilcox sand at 3,390-3,405 feet which was shot three times.

In the Ritz-Canton Field, Shell Petroleum Corp. was rigging up No. 6 Decker, 1,312 feet from south and 330 feet from west line of the SE Section 11-19-2w, and was moving in material for No. 3 Hull, 1,312 feet from south and 330 feet from east line of SW Section 11-19-2w.

Rush County

Schermerhorn's No. 1 Riedl, 1,320 feet south and 1,220 feet east of C Section 13-18-16w, Rush County, is a 46,000,000-foot gas completion at 3,456-59 feet.

Natural Gas Production in Ontario Is Increased by Recent Completions

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Nov. 24.—In Kent County, Ontario, Gas Producers' Syndicate's No. 1 Gilbert Pardo lease, Raleigh Township, 2½ miles west of Cedar Springs, has finished at about 1,579 feet. It got a natural production around 400,000 feet a day. A shot brought this up to 2,500,000 feet, which later settled to about 1,500,000 feet a day. The test was backed by Detroit interests, with F. H. Stover & Son of Chatham handling the contract. Gas Producers' No. 2 has been spotted south of No. 1 on the same farm and will start early next week.

In the Dover Field, Kent County, F. H. Stover & Son's No. 2, Sam Antaya farm, got the Trenton limestone at 2,830 feet and finished dry around 3,250 feet. It got the Trenton at a high point. Stover's No. 1, Jubenville farm, Lot 13, Front Concession, 900 feet west of No. 2, which got the Trenton at 2,855 feet, was a large producer; and the outfit is being moved back to the Jubenville farm for No. 3 test, about 800 feet north of No. 1.

West of the Stover wells, Ajax Oil & Gas Co.'s No. 9, Johnston farm, finished at 2,980 feet with a flow of 4,500,000 feet a day from the Trenton. It has been connected with the Union Gas Co.'s lines and is delivering production. Stover's No. 2 producer has been connected with the new Southern Ontario Gas Co.'s pipe line. Medina Natural Gas Co.'s No. 1, Stirling lease, E half Lot 1, Concession 4, Dover East Township, has started drilling. Prairie Oil & Gas Co.'s No. 2, Stephens farm, Lot 2, Front Concession, is below 1,500 feet.

Mar Jon Section

In Section 28-18-2w5, South Turner Valley, Spooner Oils' No. 5 Anaconda, LSD 1, is 150 feet in the Madison lime below 5,664 feet, with no additional gas. Carleton Royalties' No. 1, LSD 2, is in the lime below 5,500 feet. In the northeast corner of the section, Director Royalties' No. 1, LSD 16, is below the brown sand at 4,910 feet and expected to get the lime around 4,950 feet. Publix Oil & Gas Co.'s No. 1, LSD 8, is below 4,830 feet and running 8-inch casing to overcome caving.

In the same section, British Dominion Oil & Development Corp.'s No. 4, LSD 6, is below 3,825 feet, carrying casing behind the tools. Renfrew Royalties' No. 1, LSD 3, has set 13⅜-inch casing at 3,250 feet and is below 3,350 feet.

Far South Tests

On the western edge of Section 21-18-2w5, Northwest Royalties' No. 1, LSD 5, is below 1,750 feet. Myers & Wright's No. 1 Pacalta, LSD 14, bottoming at 2,260 feet, is cleaning out cavings.

East Side Tests

On the east side of the South Turner Valley structure, Merland Oil Co.'s No. 2, LSD 13, Section 27-18-2w5, is below 1,290 feet and will set 16-inch casing around 1,800 feet.

Livingston Syndicate's No. 1, LSD 5, Section 34-18-2w5, has resumed from 2,865 feet after a prolonged shutdown. It is being completed by Mrs. Livingston, with Roy Widney in charge of the drilling. Mrs. Livingston, whose late husband was for many years prominent in Turner Valley development, is the only woman oil operator in the Canadian West.

Royalite Abandons Wells

In the Central Turner Valley Field, Royalite Oil Co. is abandoning three more of its old producers. Several weeks ago the Royalite company abandoned its famous No. 4, the first naphtha producer in the field, after salvaging most of the casing. Of the three wells now being abandoned, Royalite's No. 16, LSD 2, Section 12-20-3w5, was completed in 1930 at 6,224 feet. Royalite's No. 20, LSD 7, same section, was finished the same year at 5,180 feet; and No. 22, LSD 8, same section, was a later completion. None of these wells was a large producer. The wells are shot at the bottom with nitro glycerin to release the cemented casing so it can be salvaged. Abandonment of the wells is in line with the Royalite policy of preventing wastage in the field and building up gas reserves in certain depleted portions.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, LSD 12, Section 13-31-10w5, has resumed after running 10-inch casing to 4,333 feet.

On the Highwood-Sinclair structure south of Turner Valley, Canadian Royalties' No. 1 Banner, LSD 6, Section 34-17-3w5, is setting casing at 625 feet.

In the old Oil City Field, Waterton Lakes Park, Oil City Royalties' No. 1 Patrick, Section 30-1-30w4, is shut down for the winter at 2,138 feet.

On the High River-Aldersyde structure, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-28w4, is below 6,270 feet.

On the Watson structure, west of Lundbreck, Raven Oils' No. 1, LSD 1, Section 20-9-2w5, is working on casing at 1,300 feet. Mar Jon Oil Co.'s No. 3, LSD 3, Section 4-10-2w5, is standing cemented at 308 feet. Mar Jon-Maxmont's No. 4, LSD 10, Section 20-9-2w5, is drilling.

Del Bonita Operations

Active work is being started on the Del Bonita structure in southern Alberta following completion of a deal between Nordon Corp. and Terminal Oil Co. of Los Angeles. The test is an indirect outcome of the two previous tests drilled by Nordon Corp. and associated interests on the Twin River structure south of Lethbridge, and about 10 miles east of Del Bonita. No. 1 Twin River, drilled jointly by Nordon Corp. and Parco Oil Co. in LSD 16, Section 34-1-20w4, finished in the Madison limestone at 4,146 feet with considerable gas and a fair show of oil. No. 2 Twin River, drilled jointly by Nordon Corp. and C. A. Roney of Los Angeles, encountered better showings in the Madison at 3,940 feet. It looked like a commercial well, but ran into casing difficulties following a well fire.

Nordon Corp. has done considerable structure testing on the Del Bonita structure, 10 miles west of its Twin River wells, and controls about 7,500 acres pretty well covering the structure. The Terminal Oil Co. has subleased this acreage, subject to overriding royalty, and is rigging heavy duty rotary equipment for a test in NE Section 18-1-21w4. S. Myron Zandmer of Los Angeles is supervising operations, with P. K. Adams in charge of drilling. Location is 3 miles north of the boundary and about 20 miles northwest of the Cut Bank Field in Montana. The structure is a closed dome, with possibilities of production in the Black Leaf, Sunburst and Cut Bank sands between 3,500 and 4,850 feet and in the Madison lime around 5,100 feet.

Terminal's No. 1 is expected to spud late this month or early in December. On the Twin River structure, Nordon-Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is shut down. It is unofficially reported that No. 3 Twin River will be drilled next spring by the same interests on a location a mile northwest of No. 2.

Another Border Test

Territory adjacent to the Reserve Dome structure in southern Alberta may get a test as a result of recent developments on the Montana side of the boundary. In this area, Mayland Southern's No. 1, LSD 13, Section 4-1-9w4, drilled in 1932 finished in the lime at 3,010 feet after getting a large gas production which has been shut in. Rialto Oils' No. 1, LSD 4, Section 15-1-9w4, also drilled by the Mayland interests but lower on structure, got sulphur water at the Ellis-Madison contact around 3,075 feet. Recently the Western Natural Gas Co.'s No. 3, Section 14-22-4e, on the Montana side, got what looks like commercial oil production in the Kootenay at 2,260 feet; while on the Flat Coulee structure, close to the boundary, J. H. Hamilton Co.'s No. 1, Section 10-37-4e, is at 1,860 feet with 10-inch set. If it develops production, the Mayland interests are expected to move their outfit from Rialto's No. 1 to a location on the Canadian section of the Flat Coulee structure, though work may not be started till next spring. Whitlash production is largely sold to farmers at the well head for tractor fuel.

Northern Saskatchewan Oil

In northern Saskatchewan, Senator Oil Co. of Ottawa has taken a half interest in Trail Blazer Oil & Gas Co.'s No. 1, SW Section 32-44-3w2, about 4 miles southwest of Hudson Bay Junction. Trail Blazer's No. 1 got a show of heavy crude at 590 feet and bottoms at 610 feet with about 100 feet of oil in the hole. Petroleum Engineering Co. is preparing to deepen into the sand. After No. 1 is completed, Senator Oil Co. will start a second well, which will be finished this season if weather permits. Considerable leasing has been done in the Hudson Bay Junction area since the strike. Dr. Donald F. McDonald, associate professor of geology at St. Francis University, Antigonish, Nova Scotia, and formerly with the U. S. Geological Survey, has been granted leave of absence to report on the oil development.

Oklahoma Fields

(Continued from Page 53)

Butler, SW NW SW Section 21-5-8, is a 4,000,000-foot gas completion, producing from sand at 937-48 feet and the Sunray Oil completed a shallow producer good for 40 bbls. initially in No. 11 Gilmore, SE SW SE Section 21-5-8, sand at 850-76 feet.

J. D. Sledge & Jack Lynch's wildcat tets south of the Fitts Pool made a disappointing showing in the past week. It had a good showing in Hunton at 4,098-4,105 feet and was drilled to Sylvan at 4,110 feet. It swabbed 93 bbls. the first three and one-half hours and then swabbed every hour for eight hours and recovered 2½ bbls. It was shut down for orders. No new work was reported in the Fitts Pool.

Southern Counties

G. L. Priest was drilling at 275 feet in No. 1 Cope-Sublett, NW SE NE Section 1-8s-5, Marshall County.

W. A. Delaney and others made a location for No. 1 H. Diamond, NW NW SE Section 5-1s-8, in Johnston County.

H. C. McLaughlin was drilling at 30 feet in No. 2 Gann, NW NE SE NW Section 31-2n-4w, in Garvin County, and W. S. Critchlow had a rig up for No. 1 Mechlenburg, NW SE SE Section 6-3n-5w.

OIL SHIPMENTS TO ALBERTA

COUTTS, Alberta, Nov. 24.—Crude oil entering Alberta from the Montana fields is coming largely by pipe line, only a small portion entering in tank cars. The tank car movement from Coutts northward to refining points in the Canadian West has been heavy, with three or four trainloads daily, and the pipe lines have been very busy meeting the demand for crude.

FRED W. HOWLETT DIES

PETROLIA, Ontario, Nov. 24.—Fred W. Howlett, oil producer and secretary-treasurer of the Crude Petroleum Producers' Association, died here recently. A native of Hertfordshire, England, he has been for more than 20 years active in the oil business. Three sons and two daughters survive.

NEWS ITEM

NEW YORK WORLD-TELEGRAM,
CITY'S WORST WINTER SEEN ALMOST HERE
"Not Much Relief After November," Says Forecaster.
Mr. and Mrs. New Yorker dust off your heaviest overcoats and get out your ear muffs and red flannels, for Old Man Winter is about ready to dish out the worst brand of weather this city has ever experienced.
That is the advice of Dr. Alfred M. Nielsen of New York University, who declared today that all signs point to the most severe winter in New York City's history.

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SHELL PETROLEUM PRODUCTS

The Effect of Curtailment on Ultimate Recovery

By T. V. MOORE
Humble Oil & Refining Co.*

Is the program of curtailing petroleum production price fixing or conservation? The majority of responsible oil operators agree upon the answer, but even after four years of widespread authoritative curtailment, some still asked this question. Attempts to fix the price of other commodities at unreasonably high values have, in the past, led to disaster. On the other hand, wasteful exploitation of natural resources has been proven more dangerous, and wisely administered conservation programs have always been profitable. If curtailment be price fixing, it is a hazardous experiment, while if it be conservation, it is indispensable to the welfare of the industry and the public.

This paper presents a discussion of the effect of controlling production upon the waste of oil, primarily from the standpoint of the technical phases of the problem. However, the physical aspects affecting waste are so closely related to economic conditions that it is impossible to study this problem without consideration of the economic factors.

The petroleum industry faces numerous peculiar economic problems. Crude oil is not the only source of liquid fuel, although it is by far the cheapest. Thus, it appears that the purpose of conserving this resource is not to guarantee to the public a supply of motor fuel and lubricants, but rather to insure that these products will be available at reasonable prices. Unlike the majority of commodities, the consumption of petroleum products does not vary greatly with the price of crude oil. This is due to two causes, first, the cost of fuel is a comparatively small part (about one-third) of the cost of transportation; and second, the cost of fuel to the consumer is greatly magnified by exorbibant taxes on petroleum and its products. Thus, if the oil companies were to furnish without charge their services in discovering, producing, refining, transporting, and marketing oil, the consuming public would still have to pay, in various taxes, about one-half the present price for its gasoline. The price of crude oil is a relatively small component of the cost of transportation. The demand for gasoline depends largely upon the use of motor vehicles, which is not greatly affected by the price of petroleum products. Rather, it depends upon the cost of the motor vehicles, the general prosperity, the condition of the country's roads and other similar factors. For these reasons, the consumption of petroleum products is not substantially increased by an oversupply of cheap crude oil.

Effects of Excess Products

It is obvious that any oil produced in excess of the current demand must go into storage or be diverted to inferior uses. In storage, the oil soon loses its most valuable constituents by evaporation, and there is danger of complete destruction by fire. Any oil not stored must be used in some manner, usually in the form of fuel oil. Oversupply of crude oil forces refiners to convert a smaller fraction into gasoline, with a corresponding increase in the production of fuel oil. Fuel oil at very low prices can, temporarily at least, replace coal. However, even this market is limited, because of the csot of transporting fuel oil from the refining centers to points of consumption located in coal producing areas. Obviously, the use of oil for purposes which could be better served by more abundant materials is wasteful. Furthermore, either storage or inferior use of oil must necessarily decrease the price. If oil is stored, with the hope that some day it may be used as motor fuel, the cost of storage must be deducted from its ultimate value, the net value of the oil discounted to its present worth, and allowances made for risk and uncertainties, in order to determine what price can be paid for the oil as it is produced. It has been demonstrated that comparatively little oil produced in excess of that needed to meet the reasonable demand will force the price of oil to very low values, such as 10 cents per barrel. This is not due to any artibrary price regulation, but rather due to the simple fact that oil that must be stored for conversion into motor fuel at some indefinite future date is worth far less than that for which there is current demand.

No operator can afford to produce at a cost exceeding the value of the oil. Production costs mount rapidly as fields become depleted. If, because of uncontrolled production, the price of crude oil should fall, many fields which now produce large amounts of oil would have to shut down, and fields now flush would have to be abandoned after the cream of the low-cost production had been obtained. In most of the fields, the oil left in the ground could never be obtained at reasonable cost; hence, it would be lost forever. There can be no doubt that low prices bring about economic conditions conducive to waste. By maintaining a reasonable price of crude oil today, exorbitant prices can be avoided tomorrow.

Ultimate Recovery

However, it is the purpose of this paper not to discuss in detail the economic phases of the problem of conservation, but rather to show how curtailed production affects ultimate recovery under comparable economic conditions. The question to be answered is: Assuming the value of oil to be unaffected by the rate at which it is produced, will controlled production or unrestricted production yield profitably greater ultimate recovery?

It is impossible to produce the same oil field twice under different conditions, and no two oil fields are alike; therefore, this problem must be approached analytically. It is a well recognized fact that ultimate recovery depends primarily upon the energy available to bring oil to the wells and the efficiency with which this energy is used. The course of this energy lies in the compressed gas associated with the oil, and the water underlying the oil and pressing upward upon it. Oil will not migrate to the wells unless it is moved by the force of one or both of these fluids. The ability of those fluids to produce oil is measured by the pressure they exert, which is called the reservoir pressure.

There can be no doubt that maintenance of reservoir pressure conserves the energy necessary to produce oil, and at the same time, causes the oil to retain desirable physical characteristics, such as low viscosity and low surface tension, so that less of this energy is required to produce each barrel of oil. This inevitably increases ultimate recovery; hence, maintenance of reservoir pressure must be one of the most important steps to be taken in securing maximum yield of oil economically. If restriction of production results in maintenance of pressure, it must increase the recovery of oil.

Fields in which the water underlying the oil can furnish a substantial proportion of the energy required to produce the oil are said to be under "water drive," and most of the petroleum reserve in the United States is found in such fields. In fields of this type, the extent to which the reservoir pressure is maintained depends almost entirely on the rate of production.[1] At low rates of production, the pressure may remain practically constant at a high value, while at high rates, the pressure declines at nearly the same rate as if there were no energy whatsoever supplied by the water. This is due to the frictional resistance to the movement of water through the reservoir rock, which limits the rate at which the water can follow up the oil and release its energy usefully in producing the oil. Data supporting this proposition are available on many pools, but the East Texas Field offers the most striking example of how water can maintain reservoir pressure. In this field, a relatively small change in the rate of production causes, almost immediately, a corresponding change in the reservoir pressure.[2] As a result, many wells which have to be pumped when the field is producing at high rates will flow naturally when the production is restricted. The Thompsons Field in the Texas Gulf Coast is another excellent example of maintenance of pressure by water drive. After producing 13,000,000 bbls. of oil, the reservoir pressure in this field is more than 98 per cent of its original value, and over a two-year period has been increasing rather than decreasing.

Value of Water

The value of water as an important auxiliary in producing oil has been amply demonstrated by the water flooding projects undertaken in the Eastern fields.[3] The increased recovery obtained by pumping water into depleted oil sands in order to supply artificially the energy required to produce the oil has fully justified the expense of these operations. Yet enormous quantities of oil are found in fields that have an abundance of natural water energy, which can only be utilized to advantage by producnig the oil at slow rates.

Beneficial as water may be when properly controlled, it may, if misused, cause serious waste. Under high rates of flow, water tends to move irregularly into the oil-bearing sands, or to cone upward to the base of the wells, trapping off large quantities of oil.[4] Often the damage caused by such irregular water encroachment is permanent, for oil does not move readily through water-soaked sand. A simple experiment will demonstrate how irregular intrusion of water may prevent recovery of oil. If crude oil and water be mixed and poured over a sand filter, the water will pass readily, but the oil will be retained on the filter. The results clearly show the danger of producing wells at such high rates as to cause premature encroachment of water. Producing at reasonably slow rates is the only method by which the increased recovery, due to efficient use of a natural water drive, can be secured.

Gas Energy

Although the energy of water is important in securing maximum recovery of oil, in many fields the energy of compressed gas associated with the oil is of greater importance. In some fields, no natural energy is available in the water if present, because the water is incapable of moving into the oil sand, and gas energy alone must be relied on to produce the oil. When occurring naturally under pressure, crude oil contains dissolved gas which increases the fluidity of the oil and decreases its tendency to adhere to the sand grains by capillary attraction.[5] As the pressure is reduced, gas escapes from solution, and the oil becomes viscous and develops a greater tendency to remain in the pores of the reservoir rock. After the gas has come out of solution, reestablishment of higher pressures through introduction of gas causes little of the gas to dissolve because of the low rate of solution of gas in a quiet body of oil.[6] Expansion of the gas released from solution forces the oil to move from the high pressure areas in the reservoir to the low pressure areas around producing wells. The energy stored in gas depends upon the amount of gas in the reservoir and the pressure at which it exists. To conserve this energy, as little gas as possible should be removed from the reservoir as oil is produced, thus maintaining the pressure in the reservoir as well as saving the gas.[7]

Conclusive proof of the efficacy of gas energy in increasing ultimate recovery is furnished by the Olney experiment,[8,9] in which a small field in North Texas was, after depletion by ordinary methods, repressured with gas. Already the field has produced, by flowing, one-third the quantity of oil that was produced prior to repressuring. Inasmuch as restoring depleted fields to production by replenishing the store of gas energy cannot yield as favorable results as if the original energy of the reservoir was conserved, the additional oil obtained at Olney must be regarded as the minimum increased recovery possible by proper conservation of the gas energy.

Conservation of gas may be achieved by compressing the gas produced and returning it to the reservoir. This is a common practice in older fields, but to be most effective should be practiced from the early life of the field, as is done at Sugarland.[10] The operators of the few fields in which this has been accomplished are convinced that this is an economically sound method of increasing oil recovery. Unfortunately, problems arising from the divided ownership of most American oil fields have prevented the widespread application of this process of pressure maintenance.

Conserving Gas

In most fields, efforts to conserve gas must be confined to producing as little gas as possible with the oil, for, except in unusual instances, all gas produced is wasted. The most common methods of reducing the amount of gas produced with each barrel of oil are (1) closing in wells producing excessive quantities of gas, (2) producing wells at rates which give minimum gas-oil ratio, (3)

(Continued on Page 66)

*Before A.P.I., Dallas, Tex.

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Playa Del Rey Field Extended by Good Producer Opening Town Lots to Possible Development

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Nov. 26.—The Playa Del Rey Field of Los Angeles Basin came back into the limelight early this week when Charles W. Fourl completed his No. 1 Palisades flowing 5,775 bbls. of clean 22.8 gravity oil and 1,700,000 feet of gas per day from 6,526 feet. The significance which attaches to this well lies in the fact that it has substantially extended the limits of production in the east end of the structure and in doing so opens a number of town lots for intensive development. Fourl's new producer is up on the Del Rey Palisades on a 35-acre lease approximately 2 miles south of Loyola University and about a mile back from the ocean front. It is unnecessary to say that operators holding adjacent acreage and town lots have started preparations for immediate drilling, and from present indications we may anticipate additional development in the near future.

This new well is one of the largest producers finished in the Playa Del Rey Field in a long time, and may prove of more importance than many are willing to concede at the moment. Structurally it is about 175 feet lower than the nearest producer and this naturally tends to indicate that it is an outpost in the Playa Del Rey Field rather than a discovery well in a new area. Projected contours, based on the top of the lower productive horizon, enclose this location and indicate that there is room for a number of other locations. It is safe to say, therefore, that operators holding leases will undertake immediate drilling in order to get in the play before gas depletion sets in or edgewater encroachment becomes a factor. This is of prime importance because the Union Oil Co. will undoubtedly begin drilling one or more wells at once as this company holds all of the intervening acreage with the exception of the town lot area.

Status Undetermined

Operators are still more or less undecided as to whether this new well is an outpost in the Playa Del Rey Field or whether it has opened a new field or at least a nubbin at the east end of the structure. Conservative operators are of the opinion that this well is an outpost, but those more optimistically inclined cite the fact that it showed a higher initial daily production and more gas than any of the wells finished on properties lying between it and the older section of the field. The significance of this discovery is still conjectural but there are certain axiomatic facts that cannot be ignored. Aside from production, one of the most important of these is that the well failed to log the upper zone and further that it appears to be located somewhat lower structurally. At the same time there seems to be ample proof to support the contention that this well may have proved up a new extension. The axis of the Playa Del Rey structure passes through this new area and while this tends to indicate that the new well extends the productive limits of the old field one cannot laugh off the completion of a big well out on the edge of a proven field.

Fourl's new well is east of the Union Oil Co.'s Vidor and Del Rey acreage, which has been undergoing slow but consistent development due to the inability to produce up to the maximum because of the proration program. The Union acquired the Vidor and Del Rey leases shortly after the discovery of the Del Rey Field, and while this acreage looked rather far out in the woods at the time the company's judgment has been proven to be excellent. The Union has been sitting out on the end of the structure marking time and hoping that it would not be obliged to undertake any aggressive drilling for the present as periodic completions in this section have indicated rather conclusively that most of its acreage in the east end of the structure would prove highly productive.

Town Lot Area

The substantial production of oil and gas developed by Charles W. Fourl in his No. 1 Palisades at Playa Del Rey is bound to attract a number of operators, especially since the natural gas shows a recovery of a little less than 4 gallons of natural gasoline to each 1,000 feet of gas treated. Big Ben Oil Co. has started drilling operations and additional work to be undertaken during the next 90 days depends almost entirely upon the amount of acreage and town lot leases available.

December Quota

California's crude oil production quota for December of 456,800 bbls. will not cause any great change in the production ratio as the reduction amounts to only 5,200 bbls. per day. By the time this is spread throughout the state the reduction will hardly be noticed. Some dissatisfaction exists, however, with regard to the method of allocating production and there seems to be some basis to the arguments advanced. This is due to the fact that operators in the Mountain View Field, as well as some other areas, feel that they are not getting a fair break. This question was brought to a head a few days ago at a meeting of the San Joaquin Valley Oil Producers' Association and a resolution was passed authorizing President Dana Hogan to petition Secretary Ickes, the petroleum administrator, to rescind his order dividing California into three producing areas and limiting the production of each to the consumptive demands of each. It is the contention of San Joaquin Valley operators that pipe lines make the state really one unit instead of three and that the allocation of production on this basis works to the detriment of operators north of the Tehachapi Mountains. In the final analysis there is considerable merit to the contention of these operators who have borne the brunt of curtailment for the past several years and it is only fair and equitable that these operators be given a break now that they are in a position to take advantage of existing conditions.

Numerous Completions

Another large group of completions were chalked up during the current week and a check of development work under way indicates the probability that operators will maintain the present rate for the remainder of the current year. If this materializes, 1934 will rank well up toward the top of the list as completions have been increasing since last June with the result that December may show the largest number of new wells finished during the year. As far as the completion of new wells is concerned, the current year is well ahead of any year since 1929 and there is every indication that 1934 will be well up toward the top of the list as far as drilling projects are concerned.

Operators in the Mountain View Field of Kern County listed four new wells for completion this week and all of them showed commercial production. The Standard headed the list with two wells which registered an aggregate initial daily production of 3,520 bbls. No. 2 Wible, finished at 5,520 feet with a 7-inch liner carrying 93 feet of perforated, was brought in flowing 2,310 bbls. of clean 29.1 gravity oil and 1,100,000 feet of gas per day. No. 3 Ranton was bottomed at 5,510 feet and after the hole had been completed with a 7-inch liner, including 102 feet of perforated, it was brought in under a natural flow doing 1,210 bbls. of 29.3 gravity oil per day. General Petroleum completed its second producing well on the Brantley lease when No. 2 Brantley was finished flowing 3,690 bbls. of clean 30.1 gravity oil and 1,575,000 feet of gas per day from 5,540 feet after the hole had been completed with a 6⅝-inch liner carrying 88 feet of perforated. Union Oil Co.'s No. 2 Wible, bottomed at 5,560 feet, was brought in flowing 2,280 bbls. of clean 30.3 gravity oil per day.

Santa Barbara Mesa

The Santa Barbara Mesa Field continued to hold the limelight due to the completion of several good wells during the current week and the forthcoming seven-day period should see another large group of wells listed for completion. It does not take very long to finish these shallow producers and these wells can be drilled from spud to completion withing three weeks. Rio Grande Oil Co. finished its first successful producer in this field during the current week when No. 1 Perkins was brought in flowing 760 bbls. of clean 18.1 gravity oil per day from 1,994 feet and preparations are under way to start a third project in the immediate future. Moss & Walker got a good producer when No. 1 Securities was brought in flowing 985 bbls. of clean 18.2 gravity oil and 400,000 feet of gas per day from 2,032 feet after the hole had been completed with a 5¾-inch liner carrying 66 feet of perforated.

Fairacres Oil Co., which focussed the attention of operators on this field a week or so ago when its No. 1 Anchordoquy blew in flowing wild at the rate of 8,000 bbls. per day, has recompleted this well flowing 977 bbls. of clean 19.8 gravity oil per day from 2,041 feet. It is making 1,200,000 feet of gas along with the oil. Bastanchury Oil Co.'s No. 1 Mesa, bottomed at 2,035 feet and brought in barefoot after landing and cementing a 5¾-inch water string at 2,016 feet, was good for 1,498 bbls. of clean 20 gravity oil per day. This well later built up to 2,490 bbls. and showed a comparable increase in natural gas production. E. C. Arnold failed to get a natural flow in his No. 1 Adams upon completion at 2,049 feet and was obliged to put the well on a compressor. It is listed as a 114-bbl. well. Jordan and Mainey also failed to get a natural flow and this project, No. 1 Nye, was finished on the beam pumping 55 bbls. per day from 2,091 feet.

Kettleman North Dome

Standard Oil Co. finished two wells in the Kettleman North Dome Field this week when No. 2-29-J was brought in flowing 8,655 bbls. of 35.1 gravity oil and 13,800,000 feet of gas, and No. 87-27-Q was finished doing 1,150 bbls. of clean 33.5 gravity oil and 12,000,000 feet of gas per day. The former well was completed at 8,525 feet while the latter was finished at 8,282 feet with a 6⅝-inch liner. There are several other potential producers nearing completion in the North Dome of Kettleman Hills and unless something unforeseen develops some of them will be tanking oil before the close of the year. Continental Oil Co. has decided to make a bid for production in the South Dome of Kettleman Hills, and this well should get under way within 15 days. The South Dome is still the enigma as far as production is concerned as work has been suspended since one progressive operator got 25,000

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Nov. 11		Nov. 4			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	283,114	40,445	75,892	10,842	11,344,485	3,143,201
Diesel and gas oil	.....	.....	76,233	10,890	1,174,531	1,227,048
Gasoline	74,320	10,617	75,025	10,718	6,821,472	9,716,952
Kerosene	78,913	11,273	.....	.....	977,579	906,294
Asphalt	.....	.....	.....	.....	70,019	12,179
Other finished oil	.....	.....	.....	.....	54,778	90,557
Other unfinished oil	.....	.....	.....	.....	.....	72,584
Foreign exports—						
Crude oil	337,123	48,160	241,095	34,442	7,119,045	6,338,142
Fuel oil	363,393	51,913	328,297	46,900	11,393,645	6,767,495
Diesel and gas oil	94,260	13,466	89,634	12,805	3,531,227	2,854,889
Gasoline	104,478	14,925	397,176	56,739	4,240,119	4,928,047
Kerosene	106,910	15,273	17,866	2,552	1,586,506	1,726,664
Other finished oil	.....	.....	.....	.....	37,955	12,086
Other unfinished oil	.....	.....	6,470	924	230,745	66,375
Coastwise-domestic—						
Crude oil	65,131	9,304	54,421	7,774	7,118,427	5,391,821
Fuel oil	199,162	28,452	203,717	29,102	8,339,638	9,055,750
Diesel and gas oil	....	..	12,607	1,801	616,471	930,262
Gasoline	391,774	55,968	384,030	54,861	11,713,450	10,872,157
Kerosene	.....	.....	7,426	1,061	137,963	171,029
Naphtha distillates	.....	.....	.....	.....	.....	27,651

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	110,650	.....
Diesel and gas oil	.....	.....	.....	.....	599,613	603,697
Gasoline	.....	.....	.....	.....	365,283	804,548
Kerosene	.....	.....	.....	.....	276,593	482,430
Lubricants	.....	.....	.....	.....	46,693	33,934
Foreign exports—						
Crude oil	63,918	9,131	.....	..	1,665,083	1,696,661
Fuel oil	16,101	2,300	19,860	2,837	1,895,930	1,770,910
Diesel and gas oil	.....	.....	.....	.....	1,164,102	907,646
Gasoline	.....	.....	.....	.....	2,605,526	3,541,062
Kerosene	.....	.....	3,563	509	1,008,223	861,860
Lubricants	.....	.....	2,966	424	164,257	115,977
Other finished oil	.....	.....	.....	.....	2,760	3,745
Other unfinished oil	.....	.....	.....	.....	5,750	26,278
Coastwise-domestic—						
Fuel oil	97,942	13,992	110,191	15,742	4,783,676	3,271,604
Diesel and gas oil	.....	.....	.....	.....	119,036	202,427
Gasoline	144,952	20,708	143,323	20,475	4,855,100	3,659,141
Kerosene	.....	.....	.....	.....	92,434	98,185

bbls. of salt water instead of oil as it had expected. The Standard used a combination perforated liner in completing No. 2-29-J as the liner landed at 8,523 feet was perforated at 8,159-8,523 feet, 8,076-7,800 feet and at 7,739-7,606 feet.

Two wells in the state showed gas possibilities this week and in each case additional development may reveal the existence of a commercial gas deposit. The Pure's wildcat in the Chowchilla district of Madera County looked rather promising when given a test at 8,030 feet after the hole had been plugged back from 8,220 feet as it came in flowing 7,000,00 feet of gas per day. This well is flowing under a pressure of 1,475 pounds on the casing and while the gas is dry and is the methane class there is a possibility that the company may have opened another commercial gas field. It is the present intention to drill another deep project within 60 days and this well should reveal the potentialities of the district. Trico Oil Co.'s No. 2 in Section 3-25-23, Kings County, also showed up rather favorably as the well blew out prematurely during the course of the work. It is apparent the hole has bridged over and for this reason drilling operations will be watched with considerable interest during the next few weeks. This well shows considerable promise.

Santa Fe Springs

Several new wells were finished in Southern California fields during the current week but none of them showed substantial production. The only exception to this is the Standard Oil Co.'s No. 24 Pacific Electric, in the Huntington Beach town lot area, as this project was brought in flowing 2,080 bbls. of 23.9 gravity oil per day from 4,350 feet after the hole had been plugged back from 4,400 feet. Concord Oil Co.'s No. 2 Huntington in the Huntington Beach Field was good for 140 bbls. per day on the beam from 3,774 feet. Union Oil Co. completed two new wells in the Santa Fe Springs Field this week but neither of them showed large production. No. 67 Bell was brought in on the beam pumping 108 bbls. of clean 34.1 gravity oil per day from the Meyer zone at 4,528 feet, while No. 68 Bell was finished pumping 180 bbls. per day from the Bell zone at 3,747 feet. In the Playa Del Rey Field Union Oil Co. finished No. 7 Del Rey in the upper zone doing 686 bbls. of 22.3 gravity oil per day on a gas lift from 3,858 feet. Black Eagle Oil Co. resumed drilling operations in its No. 1-B in the Huntington Beach district and this well is coring at 4,580 feet in oil sand and shale. The next 100 feet of hole should decide the future status of this well.

Two new wells were chalked up in the Mount Poso Field during the present week and, judging by the scope of work, we may anticipate further completions during the next 30 days. In the McVan area of the Mount Poso Field Ohio Oil Co. finished No. 3 Premier pumping 376 bbls. of fairly clean 13.9 gravity oil per day from 2,720 feet after the hole had been completed with an 8⅝-inch liner carrying 113 feet of perforated. In the Mount Poso Field the Shell finished No. 11 Security doing 364 bbls. of clean 16.5 gravity oil per day on the beam from 1,904 feet. In the McKittrick Field of the San Joaquin Valley, the Welport Oil Co. finished No. 106 pumping 144 bbls. of fluid cutting 40 per cent from 1,181 feet. Honolulu Oil Co. added a new well to its list of producers in the Midway-Sunset Field by completing No. 3 in Section 14-32-24, and this producer was brought in flowing 260 bbls. of very clean 26.4 gravity oil and 940,000 feet of gas per day from 2,845 feet.

LEGAL

Call for Bids To Purchase Royalty Oil Accruing to the United States from the Salt Creek, Wyoming, Oil Field. Pursuant to the provisions of Section 36 of the act approved February 25, 1920 (41 Stat. 437), sealed proposals, in duplicate, will be received in the office of the Secretary of the Interior, Washington, D. C., on or before noon December 10, 1934, from responsible bidders for the purchase for a period beginning January 1, 1935, of all royalty oil accruing to the United States from Government lands in the Salt Creek, Wyoming, oil field. The Government royalty oil from the Salt Creek field amounts to about 13.4 per cent of the production of the field and for the calendar year 1933 amounted to 1,001,-337 barrels, for 1933 to 885,085 barrels, for the first eight months of 1934 to 546,743 barrels. The average gravity in all years was in the range from 36.0 to 36.9 degrees A.P.I. Additional information may be obtained from the Director, Geological Survey, Department of the Interior, Washington, D. C., or the Supervisor, U. S. Geological Survey, Casper, Wyoming. Bids are invited on three separate items as follows: Item 1. Royalty oil for a period of one year beginning January 1, 1935, and ending December 31, 1935. Item 2. Royalty oil for a period of two years beginning January 1, 1935, and ending December 31, 1936. Item 3. Royalty oil for a period of three years beginning January 1, 1935, and ending December 31, 1937. Bids must be in the following exact form: "For the period beginning January 1, 1935, and ending December 31, 193—(name of bidder), offers ——— cents per barrel above the highest field price for oil of equal or lower gravity in Oklahoma and Kansas, and/or in Wyoming, whichever is the higher, as published or offered on any basis of volume measurement by any responsible recognized purchaser for crude oil in quantity not less than 2,000 barrels a day." Delivery of royalty oil will be made in the field to the successful bidder or for his account without cost to the Government. Payments for the royalty oil are to be made through the office of the Supervisor, U. S. Geological Survey, Federal Building, Casper, Wyoming, to the order of the Commissioner of the General Land Office on or before the last day of each calendar month following the calendar month in which delivery is made. The volume of royalty oil will be determined by such rule of volume measurement as may be applicable to production of the Salt Creek field under regulation or order of the Secretary of the Interior; and it is proposed that effective January 1, 1935, the volume of production shall be determined by tank measurement as based on 100 per cent capacity tables and shall be computed in terms of barrels of clean oil of 42 U. S. gallons of 231 cubic inches, in conformity with departmental order of August 4, 1933. Each bidder must submit with his bid a bond in the sum of $1,000 or a certified check payable to the order of the Secretary of the Interior in the sum of $1,000 as a guarantee that he will, if successful, promptly execute a satisfactory contract and furnish a bond in the sum of $200,000, conditioned upon full and complete compliance with the terms of the contract. The Secretary of the Interior may accept the offer of the highest bidder and/or bidders and reserves the right to reject all bids whenever within his judgment the interest of the United States demands. Storage facilities are available on Naval Petroleum Reserve No. 3, Wyoming (Teapot), for approximately 1,500,000 barrels of oil. Information in regard thereto may be obtained from the Secretary of the Navy. Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., the envelope to be marked plainly "Bid on Salt Creek royalty oil." No bid received after the time herein fixed for submitting bids will be considered. (Signed) T. A. Walters, Acting Secretary of the Interior. October 31, 1934.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status:
General Pet. Co., No. 11 Capitan, Santa Barbara Co.	32- 5-30	3,130	plug 2,560
Shell Oil Co., No. 2 Capitan, Santa Barbara Co.	32- 5-30	2,920	hd. sd. drlg.
Shell Oil Co., No. 3 Capitan, Santa Barbara Co.	5- 4-30	296	sd. drlg.
Royalty Serv. Corp., No. 1 Los Alamos, Santa Barbara	35- 9-32	4,402	hd. sh. drlg.
Union Oil Co., No. 3 Santa Maria, Santa Barbara Co.	35-10-34	1,230	sd. sh. drlg.
York-Smullin, No. 2 Lompoc, Santa Barbara Co.	33- 8-34	mtl.	bldg. rig
Barnsdall-Rio Grande, No. 3 Doty Elwood, Santa Barbara	15- 4-29	5,732	redrlg. 2,365
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14- 4-29	3,698	O.S. drlg.
Shell Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	5,101	rd. sd. drlg.
Standard Oil Co., No. 2 Goleta, Santa Barbara Co.	17- 4-28	4,850	redrlg. 4,075
Ortega Oil Co., No. 1 Summerland, Santa Barbara Co.	16- 4-26	4,582	reaming
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,612	redrlg. 6,000
General Pet. Co., No. 4 Rincon, Ventura Co.	tideland	....	bldg. pier
Continental, No. 3 San Miguelito, Ventura Co.	23- 3-24	7,015	plug 5,517
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	7,370	fishing
Fisher, Daniel, No. 1 South Mountain, Ventura Co.	5- 3-19	765	suspended
Texas Co., No. 128 South Mountain, Ventura Co.	4- 3-19	9,095	rd. sh. drlg.
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	1,400	br. sh. drlg.
Bolsa Chica Oil Co., No. 2 Piru, Ventura Co.	4- 4-18	461	fishing
Piru Oil Co., No. 1 Piru, Ventura Co.	14- 4-18	3,396	hd. sh. drlg.
Dawson Oil Co., No. 1 Simi, Ventura Co.	5- 2-17	1,800	gr. sd. drlg.
Rancho Oil, Inc., No. 1 Ojai, Ventura Co.	18- 4-23	2,525	hd. sd. drlg.
Continental Oil Co., No. 1 Ojai, Ventura Co.	12- 4-23	936	cleaning out
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	7,194	O.S. drlg.
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	2,300	reaming
Associated, No. 2 Lost Hills, Kern Co.	2-26-20	....	foundation
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	6,504	cmtd.
General Pet., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Union Oil Co., No. 18 North Belridge, Kern Co.	36-27-20	8,523	redrlg.
Standard Oil Co., No. 1-A North Belridge, Kern Co.	36-27-20	4,283	sd. sh. drlg.
Amerada Pet., No. 1 Blackwells Corner, Kern Co.	17-26-19	2,991	br. sh. drlg.
Home Corp., No. 1 McFarland, Kern Co.	16-26-27	2,102	suspended
Ohio Oil Co., No. 1 McVan, Kern Co.	32-27-27	1,364	will deepen
Peli Oil Co., No. 1 McVan, Kern Co.	14-27-27	1,501	sd. sh. drlg.
Buckeye Union Oil Co., No. 1 McVan, Kern Co.	11-27-27	1,169	will test
Hancock Oil Co., No. 1 Mountain View, Kern Co.	14-30-28	5,390	O.S. drlg.
Associated Oil Co., No. 1 Mountain View, Kern Co.	3-31-29	4,330	sd. sh. drlg.
Associated Oil Co., No. 2 Mountain View, Kern Co.	14-30-28	3,912	sd. sh. drlg.
Union Oil Co., No. 3 Mountain View, Kern Co.	23-30-28	5,560	cleaning out
Union Oil Co., No. 4 Mountain View, Kern Co.	15-30-28	5,331	sd. sh. drlg.
Union Oil Co., No. 6 Mountain View, Kern Co.	15-30-28	906	sd. sh. drlg.
General Petroleum, No. 3 Mountain View, Kern Co.	14-30-28	mtl.	bldg. rig
Texas Co., No. 4 Mountain View, Kern Co.	14-30-27	....	location
Barnsdall, No. 3 Mountain View, Kern Co.	31-30-29	5,474	sd. sh. drlg.
Hogan Pet., No. 6 Mountain View, Kern Co.	4-31-29	1,972	sd. sh. drlg.
Standard Oil Co., No. 4 Mountain View, Kern Co.	23-30-28	rig	rigging up
National Oil Co., No. 1 Mountain View, Kern Co.	30-30-29	5,604	suspended
Gilmore-Snyder Oil Co., No. 2 Mountain View, Kern Co.	24-30-28	1,842	sd. sh. drlg.
Gilco, Inc., No. 2 Edison, Kern Co.	23-30-29	2,110	will test
Jergins Trust, No. 3 Edison, Kern Co.	14-30-29	1,181	sd. sh. drlg.
Jergins Trust, No. 4 Edison, Kern Co.	24-30-29	rig	suspended
Consd. Crude Oil Co., No. 1 Edison, Kern Co.	17-30-29	rig	rigging up
Shell Oil Co., No. 1 Edison, Kern Co.	16-30-29	4,276	cleaning out
Shell Oil Co., No. 2 Edison, Kern Co.	15-30-29	rig	rigging up
Monterey Expl. Co., No. 4 Edison, Kern Co.	15-30-29	rig	suspended
Texas Co., No. 1 Edison, Kern Co.	4-30-29	1,202	sd. sh. drlg.
Centralia Oil Co., No. 2 Edison, Kern Co.	26-30-29	rig	suspended
North American, No. 1 Edison, Kern Co.	14-30-29	1,209	cleaning out
General Pet., No. 1 Edison, Kern Co.	14-30-29	2,800	sd. sh. drlg.
General Pet., No. 2 Edison, Kern Co.	15-30-29	rig	rigging up
Lee Oil Co., No. 1 Edison, Kern Co.	6-30-29	4,025	to pump
Surety Oil Co., No. 1 Edison, Kern Co.	32-29-29	rig	suspended
Caravel Pet., No. 1 Sivert, Kern Co.	19-30-30	1,925	resume work
Sea Cliff Oil Co., No. 1 Greenfield, Kern Co.	7-31-28	rig	rigging up
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	23-32-29	1,403	suspended
Standard Oil Co., No. 1 Semi-Tropic, Kern Co.	8-27-23	515	sd. sh. drlg.
101 Oil Co., No. 1 Elk Hills, Kern Co.	5-30-24	....	rigged up
Richfield Oil Co., No. 2 Devil's Den, Kern Co.	14-25-18	rig	rigging up
Texas Co., No. 1 Temblor, Kern Co.	29-29-21	mtl.	bldg. rig
Shell Oil Co., No. 1 Buena Vista Lake, Kern Co.	9-32-25	mtl.	bldg. rig
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-25	6,258	suspended
Russ Oil Synd., No. 1 Dos Palos, Fresno Co.	25-12-11	4,514	hd. sh. drlg.
Bergman, Harry, No. 1 Dos Palos, Fresno Co.	12-12-11	6,138	suspended
Union Oil Co., No. 1 Lillis-Kettleman, Fresno Co.	24-21-16	10,944	redrlg. 8,220
Texas Co., No. 1 Coalinga, Fresno Co.	8-22-18	10,154	redrlg. 9,476
Western Gulf, No. 2 S. P., Fresno Co.	35-20-14	1,040	sd. sh. drlg.
Farrell Pet., well No. 1, San Luis Obispo Co.	11-17-15	6,725	redrlg. 6,410
K. N. D. A., No. 56 Kettleman, Kings Co.	18-21-12	1,390	hd. sh. drlg.
Commonwealth Consd. Gas Co., No. 1 Tulare Lake, Kings	21-22-20	2,490	gas, shut in
Commonwealth Consd. Gas Co., No. 3 Tulare Lake, Kings	21-22-20	rig	suspended
Kettleman Pac. Oil Co., No. 1 Tulare Lake, Kings Co.	11-23-16	812	sd. sh. drlg.
General Pet., No. 1 Devil's Den, Kings Co.	20-24-18	mtl.	bldg. rig
Trico O. & G. Co., No. 2 Alpaugh, Kings Co.	3-25-23	2,480	blew out
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16- 1	5,615	hd. sh. drlg.
Milham Exploration Co., No. 3 Tracy, San Joaquin Co.	24- 3- 4	3,270	sd. sh. drlg.
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	8,220	7,000 m.c.f.
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24- 3	2,031	hd. sh. drlg.
Texas Co., No. 1 Petrolia, Humboldt Co.	1- 3- 2	rig	rigging up

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status:
Clayton, G. L., No. 1 Cerritos, Los Angeles Co.	31- 3-12	6,698	suspended
Kelly & Son, No. 1 Torrance, Los Angeles Co.	7- 4-13	7,271	sd. sh. drlg.
Speik, F. A., No. 1 Athens, Los Angeles Co.	2- 3-14	rig	rigging up
Houser, G. W., No. 1 Athens, Los Angeles Co.	18- 3-14	4,037	cleaning out
Macrate, A. N., No. 1 Athens, Los Angeles Co.	18- 3-14	4,156	to deepen
Wilshire Oil Co., No. 2 Potrero Deep, Los Angeles Co.	27- 2-14	7,985	cleaning out
Fourl, C. W., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,526	5,000 b.d.
Big Ben Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	rig	rigging up
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	4,660	redrlg. 4,604
Rex Anglin Dev. Co., No. 1 Los Nietos, Los Angeles Co.	29- 2-11	1,183	sd. sh. drlg.
Standard Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	8,321	plug 3,500
Universal Consd., No. 4 Montebello Deep, Los Angeles	6- 2-11	rig	rigging up
Shively, N. O., No. 1 Puente Hills, Los Angeles Co.	23- 2-10	931	sd. sh. drlg.
Deep Rock Oil Co., No. 1 Puente Hills, Los Angeles Co.	23- 2-10	2,524	rig to pump
Pressel & Tull, No. 1 Puente Hills, Los Angeles Co.	30- 2- 9	4,085	br. sh. drlg.
Barstow Oil Co., No. 2 Saugus, Los Angeles Co.	35- 5-16	2,400	suspended
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34- 5-16	3,350	fishing
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland	4,589	sd. sh. drlg.
Explorers Drilling Co., No. 1 Fairview, Orange Co.	9- 6-10	945	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	6,485	fishing D.P.
B. & B. Oil Co., No. 1 Newport, Orange Co.	19- 6-10	1,432	sd. sh. drlg.
Platt & Collins, No. 1 Costa Mesa, Orange Co.	14- 6-10	2,566	suspended
Mid-Rich Drlg. Co., No. 1 Atwood, Orange Co.	26- 3- 9	4,085	br. sh. drlg.
Barstow Oil Co., No. 2 Saugus, Los Angeles Co.	35- 5-16	2,400	suspended
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34- 5-16	3,350	fishing
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland	4,589	sd. sh. drlg.
Explorers Drilling Co., No. 1 Fairview, Orange Co.	9- 6-10	945	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	6,485	fishing D.P.
B. & B. Oil Co., No. 1 Newport, Orange Co.	19- 6-10	1,432	sd. sh. drlg.
Platt & Collins, No. 1 Costa Mesa, Orange Co.	14- 6-10	2,566	suspended
Mid-Rich Drlg. Co., No. 1 Atwood, Orange Co.	26- 3- 9	4,085	br. sh. drlg.
Bridger, J., No. 1 Coyote, Orange Co.	15- 3-10	5,410	suspended
Great American Pet. Co., No. 2 East Coyote, Orange Co.	19- 2- 9	2,000	sd. sh. drlg.
Great American Pet. Co., No. 1 Chino, San Bernardino	18- 2- 8	2,462	suspended
Great American Pet. Co., No. 3 Chino, San Bernardino	7- 2- 8	231	hd. sh. drlg.
Tehama Pet., No. 1 Santa Ana Canyon, San Bernardino	33- 2- 8	2,698	suspended
San Diego Pet. Co., No. 1 Chula Vista, San Diego Co.	32-18- 2	5,735	hd. sd. drlg.
Edmonds, E. A., No. 1 Trustee, San Diego Co.	29-15- 3	2,421	hd. sd. drlg.
Everts Drlg. Co., No. 1 Camp Kearney, San Diego Co.	23-15- 3	941	sd. sh. drlg.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5- 5	221	sd. sh. drlg.

Harold Hoots President California Geologists

LOS ANGELES, Calif., Nov. 24.—The eleventh annual convention of the Pacific section of the American Association of Petroleum Geologists, held at the Mayfair Hotel in Los Angeles, was one of the most successful. At the annual election, Harold Hoots of the Union Oil Co. was elected president for the coming year and Graham Moody was elevated to the position of secretary-treasurer. The retiring officers were A. A. Curtice, president, and W. D. Rankin, secretary-treasurer. The two-day session of technical papers was directed by A. A. Curtice, consulting geologist of Los Angeles, likewise outgoing president.

The Pacific section was honored by the presence of W. B. Heroy, chief geologist of the Consolidated Oil Co. from New York and national president of the American Association of Petroleum Geologists. Mr. Heroy presented many interesting facts regarding general conditions within the association.

The technical program contained many papers covering the geology and importance of recent discoveries in California. The newly discovered Edison Field near Bakersfield was discussed by Earl B. Noble and W. D. Kleinpell, and the Mountain View Field was covered by Kenneth L. Gow. Papers bearing directly upon the origin of petroleum and of some of the Tertiary sediments of California included those of Parker D. Trask of the U. S. Geological Survey and Wayne Galliher of Stanford University. The progress made in the preparation of a new geologic map of California was outlined by Olaf P. Jenkins, chief geologist of the State Division of Mines.

Two papers were presented by Prof. Hubert G. Schenck of Stanford University, one on "The Oligocene Problem" and another entitled "What Is the Vaqueros Formation of California and Is it Oligocene?" Robert M. Kleinpell presented a comprehensive discussion of "Miocene History and Faunas" and a paper by L. M. Clark and Alex Clark made available information bearing on a new discovery of the Vaqueros formation in the Temblor range. The geology of one of the Santa Barbara Channel Islands was described by Graham Moody in an illustrated paper on "The Geology of Santa Rosa Island." R. D. Reed and J. S. Hollister contributed the results of several months' work on some of the outstanding geological features of the Transverse ranges, one of the less accessible districts of Southern California.

Completion of 150 Barrel Well Near Rosebush Stimulates Activity in Central Michigan Area

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Nov. 26.—Completion of a 150-bbl. producer in Isabella Township, Isabella County, near the village of Rosebush, gave added impetus last week to an increasing drilling program in this area between the Leaton and Vernon Pools of Central Michigan.

Although not the largest new well of four producers brought in last week in addition to the completion of three dry holes, the Wittmer company's No. 1 Merrill D. Dunn, E NW Section 13-15n-4w, Isabella Township and County, was one of the more interesting developments.

Its success at a total depth of 3,689 feet after topping the Dundee limestone formation at 3,634 feet resulted in immediate plans by the Wittmer Co. to drill two more wells in this territory, while the Old Dutch Oil & Gas Co., of Muskegon, also took out a permit for a semiwildcat in the same township. Two other wells also are being drilled in the area, one by the Wittmer Co., which drilled the discovery well about a year ago.

Two other oil wells were completed in the Porter Pool in Midland County, one the largest of the week. One new producer also was assured in the Ogemaw County Pool in West Branch Township. Dry holes were completed in Denver Township, Isabella County, Mills Township of Ogemaw County and Richmond Township, Osceola County.

Ten new permits issued by the oil and gas division of the state conservation department exceeded the completions by three.

Midland County

Pure Oil Co.'s No. 4 C. D. Alexander, SE SW SE Section 18-13n-1w, Porter Township, Midland County, was the largest successful completion of the week when it made 750 bbls. initial in the Dundee formation at a total depth of 3,407 feet.

Richard Hall's No. 2 Harris-Bond, SW NW SE Section 7, also Porter Township, topped the Dundee at 3,400 feet and flowed 96 bbls. in the first 24 hours at a depth of 3,439 feet barely falling under the new maximum of 100 bbls. a day under which acid treatment of new wells is allowed by the Michigan Producers' Proration Committee. It will be treated.

Two other drilling wells in Porter Township were nearing completion including Pure's No. 4 Floyd Younglove, NW SW SW Section 17, and Sun Oil Co.'s No. 7 Miller estate, NW NE SW Section 16. Both are expected to complete in the Dundee this week.

Sixteen others are just starting in Porter Township, and three are drilling between 1,000 and 2,000 feet for a total list indicating less activity than in many months in the record Michigan Pool.

Two tests in nearby Jasper Township, Midland County, are drilling between 2,000 and 3,000 feet and two more are starting, while one is starting in Greendale Township, the original producing area in central Michigan.

Isabella County

Drilling projects were active in six other townships other than Isabella in Isabella County last week.

Michigan Gas & Oil Corporation's deep test in the Leaton Pool, the discovery well brought in as a 540-bbl. Dundee oil producer on the P. J. Marthey lease, SW SW SE Section 19-15n-3w, Denver Township, Isabella County, on June 10, 1930, was dry, plugged and abandoned at a total depth of 4,390 feet where it was believed to have struck the Sylvania formation after a light show in the Monroe.

Two other Denver tests were nearing the Dundee as follows: Arthur R. Morris and Charles Van Keuren's No. 1 J. Hart, SW NW NE Section 18, and the Wittmer Co.'s No. 1 Mrs. Fred Haskins, NE SW SW Section 30, both drilling at more than 3,200 feet. Three were shut down and five starting in the same township.

Broomfield-Isabella

Three gas tests in Broomfield Township, including Arbaugh Brothers' No. 1 Ray Aldrich, C NE SE Section 22, which has experienced serious trouble in a bad fishing job for several weeks, were near the Michigan stray gas sands.

The other two, both being drilled by the Michigan Cities Natural Gas Co., were No. 5 Keeler-Mitchell, C SE NW Section 10 and No. 2 Ada Skarritt, C SE NE Section 5-14n-6w.

Kenjos Oil Corp.'s No. 1 C. Calvin Chivington, SE SW NE Section 3-14n-3w, Chippewa Township, was still testing but uncompleted in the Dundee.

Two tests were drilling in Vernon Township, Isabella County, one nearing the Dundee and the other nearing the Michigan gas sands.

Morris-Van Keuren Oil & Gas Syndicate's No. 3 Bowman heirs, NW SE NE Section 27-16n-4w, Vernon Township, was nearing completion in the Dundee while the Old Dutch Oil & Gas Co.'s No. 2 Michael McGuire, C SW SW Section 36, was expected to drill into the Michigan Stray sands soon. One other Vernon test was shut down after failure in the Michigan sands.

One was shut down in the Dundee and another nearing the Michigan sands in Sherman Township, Isabella County, namely, Youmans-Wyckoff Oil & Gas Co.'s No. 1 Roy Terry, C SW SE Section 30-15n-6w, and Hal-Be-Oyle & Gas Corp.'s No. 1 O. D. Leiter, SE NE SW Section 33.

Two new tests were just getting under way in Rolland Township.

Ogemaw County

Arthur R. Morris and Charles Van Keuren drilled their No. 1 Floyd Fisk, SE SE SE Section 20-22n-2e, West Branch Township, Ogemaw County, into the Dundee to a total depth of 2,725 after topping the limestone at 2,559 feet and the hole filled up with oil. It will be treated with acid and placed on the pump for production.

Three other West Branch Township wells were nearing completion in the Dundee, one after a good show and the other two drilling in, while two other Ogemaw County tests in Ogemaw Township were drilling in or below the Dundee. One Mills Township, Ogemaw County test was to be plugged and abandoned as a "duster."

Joseph Malloy and Associates' No. 1 Sarah Bosom, SE NW SE Section 19-22n-2e, West Branch Township, was drilling at more than 2,600 feet, or more than 50 feet in the Dundee. Ide Oil & Gas Co.'s No. 1 Jane M. Donovan, NE SE NW Section 19, same township, also was drilling in the Dundee at more than 2,600 feet after topping the limestone at 2,575 feet.

William J. Sovereign's No. 1 Ransom Swain, SW NE SE Section 19, same township, struck a show in the Dundee and was shut down to be tested at about 30 feet in.

Jones & Durham's No. 1 Russell Miller, SW NE SE Section 20, West Branch Township, was drilling in the Traverse at more than 2,000 feet with a hole full of water.

Two tests, Muskegon Development Co.'s No. 1 Frank Estey, NW NW SW Section 28, and Weber Oil Co.'s No. 1 L. Doran, SE SW SE Section 27, were still shut down in the Dundee and upper Traverse, respectively, awaiting a market before completion after commercial shows.

Muskegon Oil Corp.'s No. 1 H. Wilson, NW SE NE Section 24-22n-1e, Ogemaw Township, topped the Dundee at 2,628 feet and started drilling in. McClanahan Oil Co.'s No. 1 F. E. Boutell, SW SW SW Section 5, Ogemaw Township, continued drilling at more than 3,300 feet as a deep test.

McClanahan company's No. 1 C. Conard, NW NW NE Section 22-22n-3e, Mills Township, will be plugged and abandoned after striking black water from 2,732 to 2,745 feet in the Dundee. Formation was topped at 2,594 feet and a show of oil encountered at 2,613 feet.

Eight new tests were starting in West Branch Township, including a new location in Section 28 by the Muskegon Development Co. announced last week.

Western Michigan

A. S. Cochran's No. 3 Frank J. Durham, S SW Section 15-10n-16w, Muskegon Township and County is pumping about 10 bbls. a day after being treated with acid in the upper Traverse.

Lima Oil Corp.'s No. 1 W. R. Angell and Harry C. Spillman, NE SW NE Section 22, same township, is still shut down after striking a gas flow of 45,000 cubic feet a day in the lower Traverse.

West Michigan Consumers Co. is drilling the former Dixie Oil Co.'s No. 6 Fred Figge, SW SW NW Section 9, also Muskegon Township, on the way to the Monroe gas from former oil production in the upper Traverse.

Oceana County

John B. Northcott's No. 2 Jane Pinder, SW NW NW Section 31-15n-16w, Elbridge Township, Oceana County, is drilling at about 750 feet, while H. C. Nelson's No. 1 O. L. Crowfoot, SE NE SW Section 25-15n-17w, Hart Township, was driving pipe at 350 feet. Work has not yet been started on the Wright heirs lease, E SW Section 30, Elbridge Township, to be drilled by Northcott and others.

Allegan County

Bear Creek Oil & Gas Development Co., of Holland, is moving in for a new western Michigan test on the John Fors lease, NE NE SE Section 29-3n-14w, Heath Township, Allegan County.

The new Allegan County test will be drilled by Lewis and William Augenstine, drillers of the discovery well in the Muskegon Field brought in December 15, 1927. It will be located near the site of an old well reported to have had favorable showings 40 years ago. It is also about 6 miles from the Manion and Tobin well drilled to a depth of 1,635 feet, or to the Monroe formation, several years ago without success.

It was also reported another Allegan County test is being considered by the developers of the Lockwood-Varner test in Northwestern Oceana County near Pentwater village.

Dapar Oil Co., of Central Michigan, also is reported considering a new test six or 8 miles north of Grand Rapids in Kent County where several structural tests have been drilled recently.

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Making Inspection Tour of Oil Fields

Wesley Batten, U. S. Rubber Co., Tulsa; Fred Pinkerton, Mgr. Sales Promotion U. S. Rubber Co., New York; John Brock, Snetcher & Pittman Co., Oklahoma City; Smoke Ballew, Dist. Mgr., U. S. Rubber Co., Kansas City, Mo. and C. C. Nelson, Acme Drilling Co., Oklahoma City

New Oriskany Test Location in Kanawha County; Good Southeast Ohio Producer Completed

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Nov. 26.—In Elk district, Kanawha County, West Virginia, another location has been made for an Oriskany sand test. The Echo Oil & Gas Co. is hauling in rig timbers on the B. F. Bolkins heirs farm on Coopers Creek, about one-half mile above the W. L. Burdette producer between the hard road and the creek, about 75 feet from the creek. In this district, about 1,000 feet east and slightly north, of the Burdette well, Clyde Oil & Gas Co. has started spudding on the M. A. McGraw farm. On Coopers Creek Island, the mouth of the creek, V. C. Smith and others have started drilling another test due for the Oriskany sand and it is at 300 feet. S. B. Avis, trustee for Grosscup and others, has reached 2,165 feet on the Copen heirs farm. Between the river and the B.&O.R.R. and about 80 feet from the river, Goshorn and others have made a location on the Goshorn farm.

Completions in the lower eastern fields totaled 18, along with six dry holes, during the week. Five were gas wells, one large, and 13 were producers with an initial production of 233 bbls. Five of the producers were in Southeast Ohio.

SOUTHEAST OHIO

The largest producer in Southeast Ohio completed during the week was in Coshocton County. In Newcastle Township, Kundtz Hulse, Inc., and others completed No. 3 on the French Allen farm in the Clinton sand at a depth of 3,284 feet. It produced 65 bbls. the first day, after shot, and has a gas volume of 500,000 feet a day.

In Holmes County Preston Oil Co. completed a test on the Emanuel E. Weaver farm, NE Section 6, Berlin Township. It was drilled into Clinton sand at 4,123 feet and is a very light gas well, natural.

In Perry County there were two completions. In NE Section 20, Reading Township, Planet Oil & Gas Co. and others completed a second test on the A. T. Palmer farm in the Clinton sand at a depth of 2,962 feet. It will make about a 10-bbl. pumper. In Section 33, Pleasant Township, Allegheny Oil Co. completed No. 26 on the Thomas and Mary Monahan farm in the Berea sand at 1,086 feet. It produced 5 bbls. the first day after shot.

In Washington County, Pauper Oil Co. completed two wells on the Washington County Farm in Section 11, Marietta Township, just east of Marietta. No. 1 was drilled to 533 feet, the Mitchell sand, and it produced about a half barrel after being shot. The second test reached the same formation at 564 feet and produced 2 bbls. the first day after shot. In Section 44, Salem Township, George Hess and others drilled No. 17 on the George Hess farm through the Macksburg 800-foot sand, depth 1,205 feet, and it was a dry hole.

SOUTHWEST PENNSYLVANIA

The test of James H. Duff and John T. Galey, which is being drilled to the Oriskany sand on the Lehigh Portland Co. property in Muddy Creek Township, Butler County, has reached 2,900 feet. The tools are working in alternate stratas of gray shale and gray shale with shells. The exact location is found on the Zelienople Quadrangle six-tenths of a mile south, 25 degrees west of Paynes and the well started 56 feet below the Vanport limestone.

There were no completions in Southwest Pennsylvania during the week and one well, being deepened, proved dry. In Richhill Township, Greene County, W. W. Stewart drilled deeper No. 1 on the Mary Dague farm from the Injun sand to 3,057 feet, the Fifth sand, without striking additional pay.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is drilling at 858 feet in the second test on the M. C. Manon farm. The Pittsburgh Coal was at 725 feet and there is plenty of water in the hole. This company is ready to start on the R. M. Carrons farm. Wise Oil & Gas Co. made good progress on the Jacob Snyder farm and reached 900 feet. The Pittsburgh Coal is at 773 feet.

In South Franklin Township, George Bungard & Co. reached 1,170 feet on the Ellwood Phillips farm. The Pittsburgh Coal is at 438 feet which correlates with the coal on the Tague operations and shows the Dunkard sand streak has been drilled through.

In East Findley Township, Natural Gas Co. of West Virginia has started drilling on the J. C. Sampson farm. Myers Hoskinson and others are down 1,910 feet on the M. C. Francis farm. The Carnegie Natural Gas Co. is still reaming in No. 1 on the S. A. Dague farm which is to be drilled to the Fifth sand.

In Greene County, Peoples Natural Gas Co. is getting ready to drill deeper No. 493 on the Jesse Yeager farm in Jackson Township. It will be drilled from 3,035 feet to Bayard sand. In Whitely Township, Carnegie Natural Gas Co. is drilling deeper No. 1 on the Thomas Brewer farm and shut down at 2,150 feet. In Dunkard Township, the Vance Leases remains shut down on the James and Willis Vance farm and testing the Injun sand. In Richhill Township, Wasmuth and Callahan are drilling at 2,450 feet on the Mary Bell Durbin farm. In Greene Township, Equitable Gas Co. has reached 2,862 feet in drilling deeper No. 1 on the Margaret Kiger farm. The Thirty-Foot sand, 2,855-2,862 feet, was dry.

WEST VIRGINIA

There were eight producers completed in West Virginia. The largest was in the Pike Pool in Clay district, Ritchie County. Lucas and Mahaney completed another well on the J. F. and Laura Kelley farm in the Big Injun sand, about 1,900 feet, producing about 70 bbls. a day. In this pool, Ben Gilmore and others completed a second test on the Frank Sheets lot through the Big Injun sand and it will make a 5-bbl. pumper.

In Calhoun County, Bickerstaff and others completed No. 5 on the William Cooper farm in Sheridan district in the Salt sand at a depth of 1,916 feet. It is making about 11 bbls.

In Gilmer County, Hope Construction & Refining Co. completed No. 3,571 on the A. H. Blackshire farm in Center district at a total depth of 2,314 feet in Stray and Berea sands. It is producing about 25 bbls. a day with a gas volume of over 1,250,000 feet a day. In DeKalb district, Tracy M. Cain and others completed No. 6 on the Harriett Gainer farm on Bull Creek of Tanner Creek, in the Maxon sand at a depth of 1,734 feet. It is good for 5 bbls. a day and 160,000 feet of gas. It is about 2,000 feet west of No. 3.

In Lambs Run in Murphy district, Ritchie County, King Knob Oil Co. completed No. 3 on the Emma V. Weinrick farm in the Injun sand at a depth of 1,899 feet. It is producing about 25 bbls. a day. In Union district, Droppleman and Henderson drilled deeper No. 2 on the C. B. Townsend farm, a former gas well, to 1,800 feet and shot it. It is rated at 6 bbls. a day.

In Tyler County, Stewart and others completed a test on the J. P. Stewart farm in Union district in the Cow Run sand at a total depth of 859 feet. It will make a 3-bbl. producer. In Lincoln district, Southern Oil Co. drilled a test on the T. B. Watkins farm through the Big Injun sand to 1,879 feet. It was dry.

Gas Wells

In Kanawha County, one fair gas well was completed. On Indian Creek in Elk district, Valley Gas Co. (A. E. Cavender and others) completed a second test on the G. W. Harless farm in the Big Lime at a total depth of 1,494 feet. It has about 3,000,000 feet a day, and is about 820 feet northwest of the test on this farm.

In Calhoun County, W. B. Reed and others drilled a test on the Curtis and Ella May farm in Washington district to a total depth of 1,629 feet, the Salt sand, and it was dry.

In Gilmer County, A. E. Ellis and others completed a test on the Edward Reynolds farm on Tanner Creek in DeKalb district in the Injun sand at a depth of 2,075 feet. It is a very light gas well and is 2,000 feet southeast of the Ware and Webster No. 4.

In Ritchie County, Huber and Gainer completed a test on the Phoebe Parrish farm in Clay district in the Maxon sand at a depth of 1,940 feet. It is a light gas well. About three-quarters of a mile southeast of the Pike Pool in Clay district, C. L. Donaldson and A. R. Kelley and others drilled a test on the J. P. Strickler farm through the Big Injun sand and it was dry.

In Wetzel County, Blank Oil & Gas Co. drilled a test on the James Garret farm in Center district through the Gordon sand and it has only a small showing of oil.

In Wirt County, Glen Roberts drilled a test on the Jacob Phillips heirs farm in Burning Springs district through the Injun sand to 1,840 feet. It is a very light gas well.

Drilling in West Virginia

In Boone County, Pure Oil Co. has started drilling No. 71 on the Federal Coal Co. tract in Sherman district. Its No. 70 is drilling at 1,728 feet and in Crook district this company has reached 2,950 feet in a second test on the Pocatello Coal Co. lease. In Sherman district Owens Illinois Glass Co. is drilling at 1,760 feet on the Peytonia Coal Land Co. No. 22. In Washington district, Pond Fork Oil & Gas Co.'s No. 19 is down 1,400 feet on the Cole and Cran lease.

In Cabell County there are several wells drilling but no new locations or wells starting. In Calhoun County Henderson Oil Co. is spudding on the Parsons heirs farm in Washington district. In this district Jarvis Gas Co. has

Search for Natural Gas Is Stimulating Activity in the Central Ohio Fields

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Nov. 26.—There are two especially active areas in the Central West fields, Central Ohio and Kentucky. Central Ohio leads in completions due to the strong hunt for natural gas, more than for oil, while Kentucky shows more producers of oil, the oil being at shallow depths and wells usually good producers.

The Lima Field of northwestern Ohio, has quite a number of wells under way, although there remain large areas in this field that have not as yet been touched by the drill to any extent. According to reports the Lima Field should be given more test work than is usually the case, especially along the Ohio-Michigan border and toward the northwest area of Ohio. More of the Lima Field work is being done around Lima, at the present time, but completions are slow. Wyandot County reports two completions by Wood & Co. in No. 3 on the Edward Orton farm, Section 22, Pitt Township, good for 5 bbls. at 1,471 feet, and No. 2, same farm, which produced 3 bbls. initial at 1,467 feet. In Tymochtee Township, same county, O. A. Hamburger and others are drilling below 500 feet in No. 1 on the Lawrence Swerline farm, Section 29. Miller and others' No. 1 L. F. Bogard farm is drilling below 1,475 feet, and Newcomer and others are drilling below 300 feet in No. 1 on the William D. Bennett farm, Section 29, same township. New Oil & Gas Co.'s No. 7 on the Minor Kohler farm is drilling at 1,394 feet.

In Sandusky County, Louis Hille abandoned No. 5 on the Herman Linke farm, Section 22, Woodville Township.

The bringing in of a light gas well by Jones and Coyle in No. 1 on the Willis S. Good farm, Section 17, Washington Township, Hancock County, may bring further development work in that area.

CENTRAL OHIO

The Central Ohio Field had a fairly good week with 24 completions, of which 2 were oil wells, with an initial of 17 bbls., 7 were dry holes and 15 were gas wells. In Coshocton County, Kundtz-Hulse, Inc.'s No. 4 on the French G. Allen farm, in the third-quarter of Newcastle Township, produced 15 bbls. initial at a depth of 3,281 feet.

In Medina County, Dillon & McFredrick's No. 2 on the James R. Mays farm, Section 24, York Township, was a dry hole. McCullen & Dempsey are drilling No. 2 on the Davis & Ferguson farm, Lot 3, same township. Ohio Fuel Gas Co. is drilling No. 1 F. F. Kovar farm, Lot 40, Hinckley Township. Curtis & Eakin's No. 11 Broadsword farm, Lot 2, Chatham Township, produced 2 bbls. at 402 feet. The Kemrow Co. made a location for No. 2 on the Branch & Hellman farm, Section 24, Brunswick Township, same county. Ohio Fuel Gas Co. is drilling No. 1 J. C. Treman farm, Lot 50, Granger Township, same county.

In Wayne County, Harman & George's No. 4, on the Henry Hagerman farm, Section 20, Chester Township, was a dry hole. Ohio Salt Co. is shut down at 3,-

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made a location on the Clark and G. W. Jarvis farm. Kenny and Phillips have reached 1,755 feet on the S. A. Carpenter farm. In Lee district M. F. Crawley has a rig standing on the Lester and W. B. Riggs farm. South Eastern Gas Co. is down 1,970 feet on the Ida M. McCoy farm, No. 5, and Jarvis and Ayers are drilling at 1,910 feet on the Jarvis-Hamilton lease, a test. In Sherman district McCall Drilling Co. is down 1,550 feet on the Hillery Vannery farm. In Center district, Park Bowser is drilling at 1,810 feet in No. 9 on the Dora E. Ramsburg farm and has made location for No. 10. Chemical Oil Co. has reached 1,920 feet on the Tazwell Taylor farm, No. 7.

In Doddridge County, Fred Brown has started drilling on the Ethel Bourne farm in Central district. In New Milton district, A. N. Greathouse is drilling at 2,450 feet on the Greathouse heirs farm.

In Marion County, Maxon Oil & Gas Co. has reached 2,800 feet on the Ash heirs farm in Mannington district. In this district, Monroe and Laughlin are drilling at 650 feet on the A. D. Wells farm, No. 3.

Ritchie County

In Ritchie County, Cairo Oil Co. has made a location on the J. B. Markey farm, Grant district. In this district, National Compression Co. has started drilling on the John Lynch farm. Devil Hole Oil Co. is drilling on the Ritchie Lumber Co. lease and has reached 1,400 feet. R. W. Richards is drilling at 1,700 feet on his fee lease. In Murphy district S. M. Whan is drilling deeper old No. 1 on the W. R. Nutt farm. Clem S. Morhis is fishing at 460 feet on the Morris and Carter farm. J. F. Deem is down 1,685 feet on the C. J. Williamson farm, a test. Kelley and Mason have reached 1,025 feet on the B. F. Fleming farm. W. H. Bickle has a rig standing on the Harry Miller farm.

In the Pike Pool in Clay district, Ritchie County, Smith and Hendershot are down 900 feet in No. 3 on the Charles Wilcox, Sr., farm. H. N. Rinehart is drilling at 500 feet in the second test on the George Millbarger farm. Lucas and Mahaney have a location for No. 4 on the J. F. and Laura Kelley farm.

In Roane County, Henderson Oil Co. is hauling the drilling machine on the George L. Ball farm on the waters of Buffalo Creek in Curtis district. It is 400 feet southeast of F. H. Bee, Jr.'s No. 1. In this district W. B. Heeter has started drilling on the Heeter heirs farm. In Geary district, Howard Jarvis and others has a rig standing on the J. S. Rogers and others lease. In Smithfield district United Fuel Gas Co. is down 2,010 feet in No. 4,536 on the T. Ferrell farm. Howard Bartlett and others are drilling at 1,770 feet on the Leonard Brannon farm and have made a location on the C. C. Brannon farm. Guy Boggess and others have reached 1,805 feet on the Darle Young farm.

In Wetzel County, three wells are drilling. G. N. Yoho and others have reached 1,180 feet on the George A. Smith farm. Jason Wade is down 935 feet on the Lewis Taylor farm. Hannibal Gas Co. is drilling at 1,585 feet on the James S. Haudenschildt farm. All are in Proctor district.

Central West Fields

(Continued from Preceding Page)

125 feet on its No. 1 on its own property, Section 12, Milton Township, same county.

In Summitt County, Robinson and others' No. 4, on the Phillip Doerr farm, Section 16, Lake Township, is drilling.

In Fairfield County, City Natural Gas Works' No. 1, on the J. A. Friedley farm, Section 1, Greenfield Township, is a gas well at 2,074 feet.

In Knox County, Upham Gas Co.'s No. 1, on the Iva M. Dowdes farm, Section 17, Monroe Township, was a dry hole. In Brown Township, same county, the Upham Gas Co.'s No. 2 on the David E. Keck farm, Section 14, was dry.

In Licking County, Blue Rock Oil Co. is drilling No. 9 on the Walter Hoyt farm, Section 17, Perry Township.

In Athens County, Ohio Fuel Gas Co.'s No. 14, on the Black Diamond Coal Co.'s property, Section 23, Berne Township, was a dry hole at 1,657 feet.

In Belmont County, Peters & Patterson's No. 1 Julia Hudok farm, in the SE Section 26, Richland Township, is a gas well.

In Tuscarawas County, Columbia Carbon Co.'s No. 1, on the R. H. Williamson farm, Lot 43, Goshen Township, is a gas well at 5,101 feet.

In Stark County, Ohio Fuel Gas Co.'s No. 2, on the A. J. Stoner farm, Section 3, Jackson Township, is a gas well at 4,347 feet.

In Guernsey County, Willis Township, Ohio Fuel Gas Co.'s No. 1, on the Homer A. Law farm, Section 22, same township, was a gas well at 1,581 feet. Same company's No. 2, on the Clark V. Foraker farm, Section 20, same township, is a gas well at 1,524 feet.

H. P. Muhlback & Son's No. 6, on the Thomas Stewart farm, Section 21, same township, is a gas well at 1,402 feet.

In Meigs County, the Rutland Gas Co.'s No. 1 on the Virginia Ailer, Section 8, Rutland Township, is a gas well at 752 feet. Meigs Development Co.'s No. 1 Elizabeth Graham, Section 8, same township, is a gas well at 790 feet. Hall Gas Co.'s No. 1 Edward Molden farm, Section 10, same township, is a gas well at 722 feet. Ohio Fuel Gas Co.'s No. 1 Guy Wilson farm, Section 8, is a gas well at 816 feet. Harrisonville Gas Co.'s No. 1 Elizabeth McCumber is a dry hole at 994 feet. In Lebanon Township, same county, O. D. Jones' No. 2 on the W. E. McDade farm, Section 14, same county, is a gas well at 2,040 feet. O. D. Jones' No. 1 Mary A. Knowles farm, Section 13, is a gas well at 1,942 feet. Ohio Fuel Gas Co. struck three new locations in Lebanon Township, Meigs County, being No. 1 J. J. Ours farm, Section 20; No. 1 James Powell, and No. 1 Mollie T. Bookman farm, Section 36, also in Lebanon Township.

In Guernsey County, the Henderson Oil & Gas Co.'s No. 1, on the A. J. Foraker farm, Section 2, Willis Township, is a gas well at 1,359 feet.

In Holmes County, Ohio Fuel Gas Co.'s No. 1 on the Emanuel Weaver farm, Section 6, Berlin Township, is a gas well at 4,057 feet, and the company's No. 1, on the Charles McFarland farm, Section 11, Richland County, is a dry hole at 3,425 feet.

KENTUCKY

In Hancock County, Kentucky, the Chester Oil Co.'s No. 3, on the Ida Fukua farm, produced 100 bbls., and Joseph B. Mayer's No. 2 is a gas well, in the Margie Pool, and in the Jackson sand.

In Ohio County, the Snowden-McSweeney Co.'s No. 10, on the H. J. O'Dell 365 acres, produced an initial of 85 bbls. B. E. Calvert and others' No. 2, on the B. Smith farm, south of Fordsville, is a dry hole. John Lile and others' No. 1 on the Charles Mason farm, near Ellmitch, is a dry hole. Snowden & McSweeney Co.'s No. 2, on the F. E. Midkiff farm, near Oak Station, produced an initial of 20 bbls. The Petroleum Co.'s No. 1 Tom Mills farm, is a dry hole, as in J. R. Hughes and others' No. 1 on the J. W. Peckenpaugh lot. East of Fordsville, Carpenter, Lile and others' No. 1 is a dry hole. J. C. Miller and others' No. 2 on the M. B. Smith farm, in Ohio County, produced 80 bbls. initial, and F. Cox and others' No. 2, on the Edward Smith farm, produced 15 bbls.

INDIANA

In Spencer County, Indiana, the Ohio Oil Co.'s No. 1, on the S. M. and L. Varner farm, in the SE NW Section 19, Hupp Township, is rated as a 30-bbl. initial producer.

In Warrick County, Dr. C. C. Taliafero, Jr., drilled in a 35-bbl. producer in No. 3 Henry Kohle farm, in the NW NW Section 28, Greer Township, at a depth of 1,636 feet.

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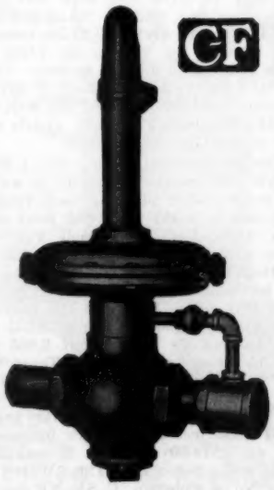

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Good Well Completed on Iles Dome, Colorado; Town Lot Drilling Likely in Cut Bank Area

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Nov. 26.—Stanolind Oil & Gas Co.'s No. 2-A Meyers, in the Cooper Pool in New Mexico, was completed for 173 bbls. an hour through the 2-inch tubing on a 1½-inch choke, and the Phillips Petroleum Co. made location for its No. 10 Woolworth in proven territory. There were no completions nor new locations in the Eunice area. One new location was made in the Jal Pool by the Continental Oil Co., and the Gypsy Oil Co. made a location for its No. 1 North Grimes in the Hobbs Pool. Three locations were made in Eddy County, one in the Artesia area, another in the eastern part of the county, and a third in the southern area. Leonard and others spotted a test in the Caprock area, northeastern Chaves County and a new location was made on the Stoney Buttes structure in San Juan County by the Reserve Oil Co. One well was abandoned in San Juan County and the Western Natural Resources Corp.'s test in Valencia County is reported to have an oil show in the Dakota at 6,001 feet.

Colorado reported a good completion in the Stanolind Oil & Gas Co.'s No. 14-8D Parkinson, on the Iles Dome, which made 2,208 bbls. the first 24 hours through tubing. The Lamar test is standing after going through 15 feet of saturated lime.

In Wyoming, Peter Evanoff and others' fault block test on the Garland Dome, showed for 75 bbls. of light oil in shallow sand and 10,000,000 feet of gas.

Townlot drilling is in prospect in Cut Bank, in Montana, the R. C. Jeffries test having 2,000 feet of oil in the hole. Two new operations were reported in Cut Bank and one completion and three new locations were reported in the Kevin-Sunburst Field.

NEW MEXICO

Cooper Area

The Stanolind Oil & Gas Co. has a good completion in the Cooper Pool in its No. 2-A Meyers, C NE NE Section 22-24-36, one-third of a mile north of its No. 1 Meyers, at a total depth of 3,513 feet. It made 173 bbls. in one hour from the pay at 3,489-3,505 feet through the 3-inch tubing with a 1½-inch choke, or at the rate of 4,150 bbls. a day. No. 1 Meyer flowed at the rate of 420 bbls. an hour through the casing on a 30-minute test. No. 2-A made 1,000,000 feet of gas with the oil. The 3-inch was run to 3,501 feet and the elevation is 3,342 feet.

The Gypsy Oil Co.'s No. 1 Cooper, C SW NE Section 23-24-36, also is a completion, but has not been tested. It was drilled to 3,580 feet and the 7-inch was run to 3,475 feet and cemented with 75 sacks. It is making a head every hour and it is estimated at 400 bbls. a day.

The only new location is the Phillips Petroleum Co.'s No. 10 Woolworth, C NE NW Section 26-24-36, which is digging cellar and pits. It is in proven territory.

The Phillips Petroleum Co.'s No. 6 Woolworth, C NW NW Section 26-24-36, had a gas show at 2,900-16 feet, and is drilling at 3,037 feet in brown lime, and its No. 9 Woolworth, C NW NE Section 27-24-36, set the 9⅝-inch at 1,388 feet with 350 sacks and is waiting.

The Humble Oil & Refining Co.'s No. 1 Thomas, C SW SE Section 23-24-36, an edge well, was plugged back from 3,586 feet to 3,470 feet to complete as a gas well. It is flowing approximately 7,500,000 feet a day, but continues to make a little water and may again be plugged back. Original total depth was 3,602 feet. Same company's No. 1 Coats, C NW NE Section 10-24-36, to the north of the main development, which caught fire last month at 3,355 feet when it encountered a flow of 38,000,000 feet of gas a day, has 56 joints of drill stem with 7 joints of 7-inch in the hole. It probably will be plugged. Humble's No. 3 Cooper, C SW SE Section 14-24-36, is rigging up rotary.

The Stanolind Oil & Gas Co.'s No. 3-A Meyers, C SW NE Section 22-24-36, is rigging up rotary. The General Crude Oil Co.'s No. 3 Meyers, C NW SE Section 22-24-36, is drilling at 3,360 feet in lime, and the Texas Co.'s No. 1 Everett, C SE NW Section 35-24-36, is drilling at 3,030 feet in salt and anhydrite. The Amerada Petroleum Corp.'s No. 1 Everett, C NE NW Section 35-24-36, cemented the 9⅝-inch at 1,402 feet with 385 sacks, and is drilling at 1,982 feet in salt. The Continental Oil Co.'s No. 1 Gates, C NE NW Section 23-24-36, is fishing for four joints of the 7-inch at 3,460 feet. The Empire Gas & Fuel Co.'s No. 1 Everett, C NE SW Section 35-24-36, cemented the 9⅝-inch at 1,501 feet wtih 1,000 sacks, and is waiting.

Eunice Area

The Continental Oil Co.'s No. 17-A-4 Meyers, C NE SW Section 17-21-36, which has been treated with acid several times in efforts to make it a producer, is preparing to go on the pump at 3,997 feet, total depth. No test has been made, but it is estimated good for 200 bbls. of oil and 25 bbls. of water a day. Same company's No. 8-A-2 Meyers, C SE SW Section 8-21-36, cemented the 5½-inch at 3,779 feet with 300 sacks, and is waiting, and its No. 1-B-9 Meyers, C NE SW Section 9-21-36, cemented the 7⅝-inch on bottom at 1,600 feet with 300 sacks and is waiting. Continental's No. 18-A-2 Lockhart, C SW SE Section 18-21-36, cemented the 10¾-inch at 347 feet with 175 sacks, and is drilling at 750 feet in red beds.

The Shell-Devonian Co.'s No. 1 State, C SW NE Section 20-21-36, is waiting on cement after plugging back from 4,090 feet to 4,040 feet. Old total depth was 3,989 feet. The Shell Petroleum Corp.'s No. 1 State-Endura, C SE NE Section 12-21-35, cemented the 9⅝-inch on bottom, in anhydrite, at 2,970 feet, with 660 sacks. It topped the anhydrite at 1,453 feet, and the salt at 1,533 feet. The base of the salt was at 2,865 feet. The elevation is 3,588 feet. Texas Co.'s No. 2 Rector, C SE SE Section 30-21-36, is a near completion at 3,458 feet, total depth. It encountered the pay at 3,154-3,355 feet and had an increase in gas at 3,374-89 feet. It is making a drill stem test. The Tide Water Oil Co.'s No. 4 Coleman, C SE NE Section 17-21-36, is drilling at 3,340 feet, in lime, and the Skelly Oil Co.'s No. 1-B State, C NW NW Section 16-21-36, is rigging up rotary. The Humble Oil & Refining Co.'s No. 1-B State, C SW NW Section 29-21-36, set the 7-inch at 3,941 feet with 300 sacks and started to swab at a total depth of 3,971 feet. The swab was lost and fishing is in progress. The Atlantic Oil Co.'s No. 1-F State, C SW SW Section 29-21-36, is drilling at 3,170 feet in lime and anhydrite. The Peerless Oil & Gas Co.'s No. 1 State, C NW SW Section 29-21-36, is building rig.

Jal Area

Texas Co.'s No. 2-B Shepard, NW NE SE Section 6-26-37, is a near completion at 3,318 feet. Drill stem test at 3,085 feet to bottom showed 350,000 feet of gas. The 7-inch was then set at 3,124 feet with 150 sacks, and it is waiting. The Continental Oil Co.'s No. 12-A-2 Wells, C NW NE Section 12-25-36, is drilling at 3,160 feet in lime, and E. B. Guess' No. 1-B Justis, SW NW NW Section 20-25-37, is shut down at 630 feet for rig repairs. The Empire Gas & Fuel Co.'s No. 1 Dyer, NE SW SE Section 31-25-37, is drilling at 600 feet in shale and shells.

One new location in Jal was reported in the Continental Oil Co.'s No. 13-A-2 Sholes, C NW SE Section 13-25-36.

Maljamar Area

The Maljamar Oil & Gas Co.'s No. 4 Baish, NE SE NE Section 21-17-32, which swabbed an average of 30 bbls. a day in the new pay at 2,330 feet, is drilling deeper to the major pay at 4,000 feet and is making hole at 2,585 feet in anhydrite. It had a show for 750,000 feet of gas a day at 2,437 feet.

Hobbs Area

One new location was reported in the Hobbs Pool in the Gypsy Oil Co.'s No. 1 North Grimes, SW cor. Section 21-18-38, an outside well on the northeastern flank, an east offset to the Humble Oil & Refining Co.'s No. 3-B Grimes. It is digging cellar and pits. The Oil Well Drilling Co. and others' No. 1 Grimes, SW NE SE Section 20-18-38, is waiting for test to determine its potential.

Big Eddy Area

The Stanolind Oil & Gas Co.'s No. 1 Duncan, E SE SW Section 30-21-30, Big Eddy area, topped the salt at 343 feet and is drilling in that formation at 1,700 feet. The elevation is 3,370 feet.

Lea Area

Texas Co.'s No. 1 Elliott, C NE NE Section 22-20-34, North Lea, is drilling at 2,240 feet in salt after changing over to cable tools, and its No. 1 Swearingin, C NE SW Section 8-20-34, set the 10-inch at 775 feet and is drilling at 1,220 feet in red beds. Same company's No. 4-A Lynch, C SE NE Section 34-20-34, set the 8¼-inch at 1,635 feet with 75 sacks, and is drilling at 3,315 feet in salt.

Eddy County

The Skelly Oil Co.'s No. 1 Dow, C SW SE Section 15-17-31, Maljamar area, is a new location.

The Pecos Valley Gas Co.'s No. 10 Vandagriff, E NW NE Section 8-17-28, a first report, is drilling at 1,100 feet in red beds. The same company has made a location for its No. 1 Mock, NE SW SW Section 29-24-37, in the Black River district, southern Eddy County. It is half a mile to the west of Stovall & Marshall's No. 1 Mock, which showed for 10 bbls. of oil in two days at 2,368 feet, last spring.

Neal Wills and others' No. 1 Montgomery, S SW NE Section 10-23-30, Salt Lake district, is moving in machine.

Four Federal oil permits comprising 10,000 acres located between the Grayburg and Jackson areas in eastern Eddy County, have been issued to C. J. Dexter and the Repollo Oil Co., by the Department of the Interior. The applications have been pending for the past 18 months.

Chaves County

A new location in the Caprock area has been released in Leonard and others' No. 1 Nunler, C NW SW Section 27-11s-30. Rigging up machine is in progress.

C. J. Frank and others' No. 1 Roswell Insurance, NE cor. SE Section 30-11s-25, southeast of Roswell, which had a show of oil at 986 feet, total depth, treated the hole with acid, and is preparing to run rods and tubing for a test. It is a wildcat. No estimate of capacity has been made.

San Juan County

One location on the Stoney Buttes structure has been released in the Reserve Oil Co.'s No. 6 Sheafer, SE NE SE Section 36-22-14.

Finley & Johansen's No. 1, NE NW Section 22-29-11w, Bloomfield district, was dry and abandoned at 740 feet.

Bernalillo County

Norins Realty Co.'s No. 1 Gallegas grant, C NW NW Section 19-11-4e, 12 miles northeast of Albuquerque, for which location was released in 1932, is reported to have completed derrick and to have tools on the ground and is drilling water well.

Santa Fe County

The Holmberg Interests' No. 1 Cantwell, NW cor. Section 5-10n-9e, near Stanley, is drilling at 810 feet and will lower pipe to shut off water. Kelsey Clients Development Estates' No. 2 State, C NW Section 22-10-10e, Crow Butte district, is drilling below 1,400 feet with 1,100 feet of water in the hole and looking for suitable casing seat to make a shutoff. Elmer Fisher's No. 1 Hill, Section 6-10n-7e, Barton district, is drilling at 2,325 feet in gray sandy lime and shows of oil and gas continue.

McKinley County

The Royer Oil Co.'s No. 1 Santa Fe, C NW SW Section 13-15-10w, Walker Dome, is reported spudding with Ike Sharp having the contract.

Valencia County

The Western Natural Resources Corp., Inc.'s No. 2 San Clemente grant, SW cor. NE Section 5-6n-1e, De Chaves district, is bottomed at 6,001 feet after going through 18 feet of sand believed to be the Dakota in which there was a show of high gravity oil and gas. The 6¼-inch is being run to 5,965 feet where it will be set and a test made. Operation changed over to rotary at 5,155 feet.

Proration Schedules

Hobbs Field potential as of November 16 was 2,106,151 bbls. daily from 201 units, of which 35 are classed as water units. Allowable outlet for last half of November is 32,719 bbls. daily as against 33,093 bbls. daily in the first half. Top allowable per well per day for the Jal, Cooper-Lynn, Eunice and Lea Pools was reduced 2 bbls. to 164 bbls. per well per day. Allowables are: Jal, 3,638 bbls. from 33 units; Eunice, 4,320 bbls. from 27 units; Lea, 1,539 bbls. from 10 units; Cooper-Lynn, 2,305 bbls. from 18 units.

COLORADO

Moffat County

The Stanolind Oil & Gas Co. has a good completion in its No. 14-8D Parkinson, C8L NE SW Section 22-4n-92, in proven territory near the top of the dome. It was drilled to 3,346 feet and made 2,208 bbls. the first 24 hours through the 2-inch tubing. Same company's No. 22-8D Shaw, NW SE NW Section 27-4n-92, in the southern part of the field, is moving in derrick and con-

necting up water lines. It will go to the Sundance.

Prowers County

The Trojan Oil & Gas Co.'s No. 1 Lotus Oil, NW NE NE Section 15-23-46, Lamar district, probably the most important wildcat drilling in Colorado, is standing at 4,035 feet, total depth, awaiting decision regarding showing of oil at 4,019-34 feet in the base of the Kansas City lime. The last 1½ feet of hole was in black slate. First show of gas and oil was at 4,019-27 feet, with an increase in oil at 4,027-30 feet, and another increase at 4,030-32.5 feet, and oil at 4,032.5-33.5 feet. The well may be acidized at this depth.

Grand County

The Colorado Oil Refining Co.'s No. 1 Linke, NE SW SW Section 13-1n-77, Granby district, is drilling at 1,820 feet and continues to show gas in alternating layers of shale and sandy shale. It probably will drill 200 to 300 feet deeper before shutting down for the winter.

Archuleta County

The Navajo Oil Co.'s No. 1 Crowley, SW cor. NE Section 11-32-1e, Chromo district, which had a show of gas in the top of the Morrison, was deepened to 537 feet where there was an increase and a show of live green oil from water from the base of the Lakota. The gas will burn 5 to 6 feet above the casing. A water shutoff will be made. There was 8 feet of shale between the base of the Lakota and the top of the Morrison. The Oil City Petroleum Co.'s No. 2-X Garnett, Lot 3, SW Section 25-33-1e, Price district, is underreaming the 8¼-inch near bottom at 770 feet.

Park County

The South Park Oil Co.'s No. 1 State, SE cor. SW Section 16-11-75, Hartsel district, is drilling at 535 feet.

El Paso County

The Utemoor Syndicate, which originally started No. 2 Carson, NW NE NE Section 10-16-66, Fountain district, has again taken over that operation from the Colorado Springs Oil & Natural Gas Co., and is deepening it from 2,470 feet. It is drilling at 2,525 feet in the Lytle (Lakota) sandstone, topped at 2,515 feet.

Boulder County

Leslie R. Steele's No. 1 Cole, NW cor. NE Section 33-1n-70, Parallel Dome, is drilling at 3,385 feet with approximately 80 feet to go to reach its objective in the base of the Hygiene.

WYOMING

Albany County

The California Co.'s No. 1 Holst, NE SE SE Section 13-17-77, Quealy Dome, is bottomed at 3,175 (correct) feet and is waiting after cementing the 9⅝-inch at 3,141 feet. Top of the Muddy was reported at 3,146 feet and showed some saturation at 3,166-70 feet.

Big Horn County

Peter Evanoff and others' No. 1 Griffin, Lot 60, Section 4-55-97, in a fault block at the south end of the Garland Dome, is bottomed at 1,677 feet in the Frontier and has killed a gas blowout at 1,665 feet. The gas was estimated at 10,000,000 feet. This test had a show for 75 bbls. of light oil a day at 995-1,030 feet in the upper Frontier. This operation is on fee land and is inside the unitized area, but not under the unit agreement. It was drilled on a permit from the state oil and gas inspector. Like the recent gas discovery in South Oregon Basin by the Dry Creek Oil & Gas Co., the results in this well are expected to influence drilling in fault blocks in search of light oil in upper formations and black oil at lower horizons.

The Ohio Oil Co.'s No. 2 Byron Union, C SE NE Section 22-56-97, Byron Dome, which swabbed at the rate of 500 bbls. a day from the Tensleep at 5,490 feet, is rigging up for pumping test. The same company's No. 1 Hoskins, SW cor. Section 14-56-97, cemented the 12½-inch at 1,420 feet and is waiting. The Garland and Byron Domes adjoin each other and the first named lies partly in Park County. On the Park County side, the Garland Oil Co.'s No. 2 Government, SE NE NW Section 14-56-98, cemented the 15½-inch at an unnamed depth. Last week it was reported drilling below 1,000 feet. Same company's No. 1 Cotner, NE SE NW Section 10-56-98, is rigged and ready to spud. Both are cable tool operations and not rotaries as previously reported.

Jerome Drumheller's No. 1 Martin, SW SE NE Section 17-49-91, Manderson district, is drilling below 1,000 feet. Drumheller and associates have acquired the James L. Keachie permit on this structure and has made a location for No. 1 Keachie, Section 7-49-91, but will not drill it until after No. 1 Martin is completed.

The Wyoming Oil & Refining Co.'s No. 1 Evans, NE cor. NW Section 12-49-91, Paintrock structure, is rigging up cable tools for a Madison test.

Carbon County

The Argo Oil Co.'s No. 1 Government, NE cor. SE Section 5-24-87, O'Brien Springs, is coring in the first Wall Creek at 1,975 feet. It had a small show of oil in shale in cores from 1,830-45 feet while looking for the Frontier. Formations dip sharply and Frontier was found deeper than expected.

The Ohio Oil Co. and California Co.'s No. 1 Kyle, NE SE NE Section 26-21-79, Medicine Bow, is rigged and ready to spud. The Rocky Mountain Drilling Co. has the contract. The Ohio Oil Co.'s No. 1 Morris, C NW SE Section 6-20-77, Diamond Dome, is drilling at 4,350 feet in shale.

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 5,800 feet after cleaning up fishing job, and its No. 1 Whitford, SW SE SE Section 24-20-84, is spudding at 100 feet.

Converse County

E. B. Jones' No. 1 Teakell, S half, Section 17-32-69, Shawnee district, is drilling at 400 feet with machine and will go to gas horizon at 600 feet in search of gas for fuel for his No. 1 State, SW cor. Section 16-32-69, which is standing rigged and ready to spud. R. J. Dilger and others' No. 1 Government, SE NE SW Section 33-31-72, Poison Lake, is bottomed at 715 feet and drilling up bailer at 600 feet.

Fremont County

The Mid-American Oil Co.'s No. 2 Government, C NE SW Section 14-28-92, Sheep Creek, 2½ miles southeast of No. 1, which was abandoned, is spudding at 200 feet.

Hot Springs County

The California Exploration Co.'s No. 1 Government, NE SE NE Section 12-44-97, Waugh Dome, is drilling at 3,396 feet, with first objective expected at 3,700 feet.

Sheridan County

The Sheridan Syndicate's No. 1 Allison, SW SE Section 15-55-85, Beaver Creek, is shut down at 2,500 feet.

Sweetwater County

The Vermillion Oil Co.'s No. 1 State, SW cor. Section 16-12-99, Hiawatha district, has completed rig to drill deeper from 4,685 feet.

Weston County

Irene Eaton's No. 14, NE SW Section 30-46-63, Osage Field, is drilling at 1,040 feet, and the Conway Oil Corp.'s No. 1 Government, C SE NW Section 7-41-60, Dewey district, is bottomed at 975 feet and underreaming the 15½-inch at 750 feet.

Washakie County

The Wyoming Oil & Gas Co.'s No. 1 State, SE cor. Section 36-48-91, Hidden Dome (McDonald and others) which was reported a completion last month, has been taken over by Bruce Teeters and others and put on production. It made 35 bbls. of 56 gravity crude and 2,500,000 feet of gas a day at 1,603-54 feet in the Frontier. Gas is being run through separator which the new interests installed. Chris Oil Syndicate's No. 1 Government, C SW SW Section 31-48-90, is bottomed at 1,570 feet in black shale and running the 8¼-inch to shut off water and drill deeper. Sand at 1,510-50 feet had some oil and a little water.

MONTANA

Glacier County

R. C. Jeffries' No. 1 Lukens, C SE SE Section 1-33n-6w, located in the town of Cut Bank, which last week looked like a dry hole, turned into a good well upon drilling deeper and increases the prospects for townlot drilling in that area of the Cut Bank Field. It has 2,000 feet of oil in the hole at 2,981 feet, total depth. It found the upper Cut Bank at 2,905-66 feet and the lower Cut Bank at 2,968-79 feet. The top of the pay yielded only 800 feet of fluid and was disappointing.

The Hannah-Porter Co.'s No. 2 Britton, SW NE NE Section 23-34-6w, which looked much like a failure last week at 2,900 feet, was deepened to 2,953 feet with no material increase. It will be put on the pump and tested. Oil rose 300 feet in the hole.

Fist and others' No. 1 Harper, C NE NE Section 21-34-6w, another doubtful well, was put on the pump and is making 2 bbls. a day from sand at 3,045-55 feet. Total depth is 3,091 feet.

Texas Co. has a near completion in what looks like a good well in its No. 5 Purdy, E NW NW Section 35-35-6w, which has 2,550 feet of oil in the hole from sand at 2,893-2,919 feet. It is installing pumping equipment.

Two new operations were reported as follows: The Montana Power Gas Co.'s No. 1 State, C SW Section 16-33-5w, half a mile to the southwest of the Texas Co.'s No. 1 State, the discovery well in the South Cut Bank district, which is also the nearest producer, is spudding at 50 feet. The Montana-Headlight Oil Co.'s No. 4 Yunck, NW NW Section 1-34-6w, topped the Colorado at 425 feet, set the 10¾-inch at 485 feet, and is drilling at 1,360 feet.

C. P. Castle's No. 1 State, SW cor. Section 36-35-6w, is drilling at 1,807 feet, and A. B. Cobb's No. 4 Walberger, SE cor. Section 35-35-6w, is running the 10¾-inch at 520 feet. The Consolidated Gas Co.'s No. 1 Tribal, E NE NE Section 34-35-6w, is drilling at 2,450 feet, and its No. 2 Tribal, NE SE NE Section 34-35-6w, is drilling at 2,180 feet.

The Indian Oil Co.'s No. 1 Reickhoff, SW SE Section 3-34-6w, is drilling at 2,555 feet and ran the 8¼-inch cave string to 2,473 feet, and its No. 2 Winkler, W SW SW Section 23-35-6w, is shut down at 2,585 feet until spring.

Lawler & Hoer's No. 1 Clarkson, C SW SW Section 9-33-5w, is spudding at 250 feet. Nadeau Brothers' No. 1 Farmers State Bank, C NW NE Section 17-33-5w, topped the Colorado at 535 feet and set the 10¾-inch at 600 feet with 50 sacks.

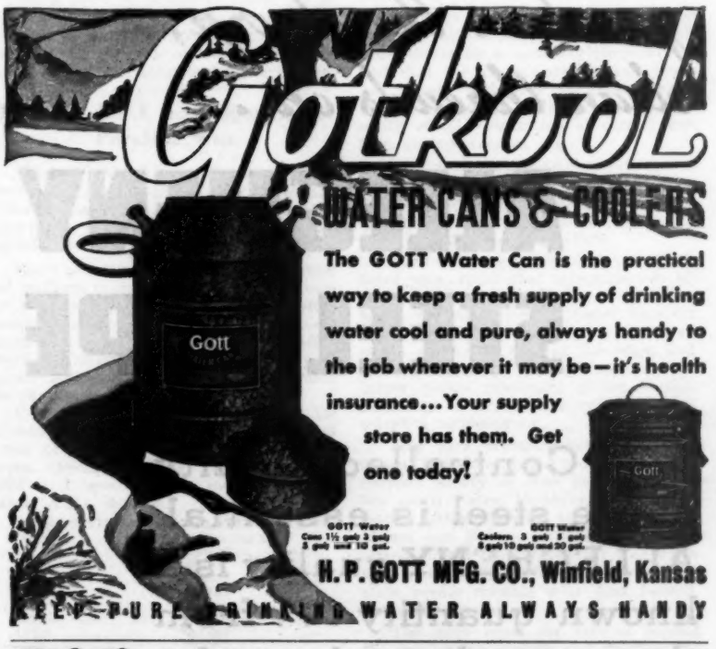
R. C. Tarrant's No. 2 Getty, NW cor. SE Section 2-34-6w, is shut down at 2,700 feet, and his No. 5 Haglund, Jr., C SW NE Section 13-34-5w, is fishing at 2,730 feet. Tarrant's No. 3 Miller, NE NE Section 24-34-6w, is drilling at 2,400 feet. Texas Co.'s No. 1 Knelae, C SW NW Section 14-35-6w, is moving in spudder to drill in. Total depth is 2,880 feet.

Fergus County

H. Clark Rowland and others' No. 1 Woodward, SE cor. SW Section 20-14-24, Button Butte, has been taken over by the Button Butte Oil & Gas Co. and is bottomed at 2,923 (correct) feet. It will run the 8¼-inch at around 3,000 feet.

Big Horn County

The Enterprise Oil Co. and others' No. 2 Lynde, SW cor. SE Section 21-6s-35, Lodge Grass Creek, is drilling at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HOUSTON, TEXAS

3,621 feet with the 4¾-inch at 3,605 feet.

Cascade County

Ralph Chamberlain and others' No. 1 Heldman, E SE Section 6-19-2w, Crown Butte, is drilling at 2,256 feet.

Petroleum County

The Minnesota-Flatwillow Oil Co.'s No. 1 Farrell, C SW SW Section 5-15-29, Cat Creek, was abandoned at 980 feet. Guy Smith and others' No. 3, NE SE SW Section 33-14-26, Flatwillow, is drilling at 1,175 feet.

Toole County

One completion and three new locations were reported in the Kevin-Sunburst Field. The Kesun Oil Co.'s No. 3 Stewart, NW NE NE Section 25-35-3w, was completed at 1,550 feet for 30 bbls. initial after acidizing. The Deloraine Oil Co.'s No. 1 McCormack, Section 33-35-2w, has rig up. L. P. Jackson's No. 1 Halter, E NW NE Section 21-35-2w, is drilling at 400 feet, and the Monopeg Oils, Ltd.'s No. 3 Dipple, S SW NW Section 28-35-1w, has rig up.

T. P. Kyle's No. 1 Clark, SW cor. SE Section 19-37-1e, Bow and Arrow district, is shut down for casing at 1,500 feet.

UTAH

The Mountain Fuel Supply Co.'s No. 2 Murphy, NE NE Section 21-3n-24, Clay Basin, Daggett County, is drilling at 5,918 feet in the Morrison. The gas in the Dakotas gauged 22,000,000 feet a day. The Uintah Gas Co.'s No. 5, NW cor. SW Section 23-5s-22, Ashley Valley, Uintah County, is drilling at 794 feet.

WASHINGTON

The Peoples Gas & Oil Co.'s No. 1 Donnie Boy, Section 19-17-28, Frenchman Hills district, Grant County, is spudding for a deep cable tool test. W. Hale and others' No. 1 King, SE SW Section 27-39-2w, Bellingham district, Whatcom County, is drilling at 1,000 feet.

Effect of Curtailment on Ultimate Recovery

(Continued from Page 58)

use of tubing set near the bottom of the wells, (4) use of packers to separate the gas-producing from the oil-producing zones.

Closing in, or seriously restricting, the production from wells producing excessive quantities of gas, is the most obvious, and at the same time the most effective method of gas conservation. This has been practiced at Sugarland since the field was discovered,[11] and recently, the Railroad Commission of Texas has issued an order effective in most fields of the state that no well may produce more than 2,000 cubic feet of gas per barrel of oil. This practice has proven beneficial, but it cannot be put into effect without restricting the field's production.

Production at the rate at which the gas-oil ratio is a minimum is another excellent method of conserving gas, and should be practiced wherever possible, but this can only be done by restricting the production. However, because it is necessary to maintain equitable production rates between the several operators in a field, minimum gas-oil ratio alone cannot be used as the sole criterion of the proper allowable rate of flow for individual wells.

One of the most important methods of reducing gas-oil ratios is the use of tubing,[12] run within a few feet of the bottom of the well. The theory of reducing gas-oil ratio by this method need not be discussed in this paper; the effect is to produce greater quantities of fluid from the lower portion of the sand, and less from the upper portion. Since gas is usually found in the upper part of the producing zone, this results in reduced production of gas. The tubing is most effective in reducing gas-oil ratio at lower rates of flow.

The use of packers to separate gas and oil sands has been most helpful in fields which have large free gas zones overlying the oil sands. In many cases, it has been possible to produce only the gas that is dissolved in the oil from wells situated in zones of free gas. Like the methods previously cited, this can only be accomplished if the flow be reduced, otherwise, a higher pressure will be exerted on one side of the packer than on the other, and the packer is liable to fail.

Restriction Necessary

Every practicable method for controlling gas-oil ratio depends upon reasonable restriction of the field's production. Without restriction of production, there is no opportunity to use methods for conserving gas and gas energy. Likewise, it has been shown that a slow rate of production makes available the energy of the water in fields where this is possible. Since ultimate recovery depends primarily upon the efficiency with which the reservoir energy is used, production at a slow rate affords a far better opportunity for increasing recovery than production by older restricted methods. Not only is ultimate recovery increased, but the overall production cost is greatly reduced.[9] If it be admitted that the purpose of conserving petroleum resources is to furnish petroleum products to the public at reasonable prices, the cost of production cannot be ignored in any consideration of the advisability of curtailment.

Economic Considerations

Nature has supplied powerful forces that can aid in producing oil only under restricted flow. An engineering study indicates that these forces can be utilized to best advantage when fields are depleted in a period of about 20 or 25 years. It is a remarkable coincidence that economic considerations alone demand a similar degree of curtailment. It is, unfortunately, impossible to estimate accurately the increased recovery that can be obtained through the efficient methods made possible by controlling rate of production. However, the information available indicates that modern methods will yield a minimum of from one-third to one-half more oil than could be obtained under the old practice of unrestricted production, and many engineers are of the opinion that recovery can be doubled or trebled. Production costs can probably be reduced to one-third of the cost under older methods.[9] The saving in production costs is due primarily to two factors, first, a reduction in the number of wells required to drain the reservoir efficiently, and second, a lowered lifting cost brought about by a prolonged flowing life. The area drained by a well is greater if the well be produced slowly; hence fewer wells are required. Wells in fields that have been produced by controlled methods will flow much longer than wells in uncontrolled fields. The complete history of restricted production in oil fields is not yet available, but no major field that has been produced at its most efficient rate has yet been forced to resort to pumping a majority of its wells. The oldest of the controlled fields is Yates, which has produced about 30 per cent of its recoverable oil, yet only a few per cent of its wells are pumping.

Even the East Texas Field, in which control of production has not been exercised to best advantage, has produced 20 per cent of its recoverable oil, and only about 800 of its 15,000 wells are pumping. The data available on some controlled fields indicate that four-fifths of the oil will be produced by flowing. Pumping is expensive, especially in those fields that produce large volumes of water with the oil. Often lease production expense in pumping fields exceeds 50 cents per barrel, while in flowing fields it is generally less than 10 cents per barrel. The lower cost of developing and operating leases in restricted fields, and the larger yield of oil, more than counterbalance the slower return of investment in such fields, and thus permit more profitable operation with a curtailed rate of production. Production costs are a minimum in fields that are produced at the most efficient rate. Further curtailment tends to increase the operating expense per barrel. Many fields, such as Yates, Sugarland, Thompsons and Conroe, are producing at about half the rate dictated by good practice. Should conditions within the industry remain as they are now, these fields will not return to their operators the maximum profit. However, the industry is producing oil much faster than it is developing new reserves. At the same time, it is becoming increasingly difficult to find new fields. It appears, therefore, that the domestic industry is facing a period of dwindling reserve, in spite of its enormous productive capacity. Should this be true, even such extreme curtailment as is in effect in these fields may ultimately prove to be as profitable as production under the maximum efficient rate. However, if extreme curtailment is to be enforced in selected fields, such fields should be permitted to enjoy the advantages of low development cost to be secured by wider well spacing.

Curtailment of Production

Curtailment of petroleum production within reasonable limits is vital to the conservation of this resource. No other course is open if a continuous supply of low cost motor fuel is to be made available to the public, and if the economic stability of the industry is to be assured. The necessity for curtailment is generally recognized, but the mechanism by which this is accomplished is far from perfect. Yet the full benefits of conservation cannot be realized unless equitable and reasonable plans for control of production are formulated and wisely administered. The primary purpose of such plans should be, first, to prevent waste of all kinds, second, to protect the vested rights and equities of all owners of petroleum resources, third, within the limits prescribed by conservation and the protection of property interests, to permit operators to develop and produce oil fields in the most economical manner. It is probable that nothing could do more to further the purpose of conservation than a clear, unequivocal, authoritative statement regarding property rights in oil reservoirs. Without a proper understanding of the property rights, it is difficult to develop equitable and enforceable allocation plans. Until this is done, the full benefits of a sound conservation program cannot be made available to the industry and to the public.

[11] Parks, M., Conservation and Utilization of Gas, Sugarland Oil Field, Texas, Proc. A.P.I., 11 (4)-31-(1930).

[12] Marsh, H. N., and Robinson, B. H., Advantages of Flowing Wells Through Tubing, Pet. Dev. and Tech., 1932, p. 301.

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TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Essential Items Constituting a Pipe Still

What are the essential parts of a pipe still? Does the pipe still unit include any condensing equipment?—E. A. W.

The pipe still as now used in petroleum refineries consists of several parts: (a) The heating unit, or furnace, where the oil is flowing through pipes to be heated to the temperature required to change a large percentage of the oil into vapor. (b) A separator or vaporizer, to which the hot liquid and vapors are delivered from the tubes. The purpose of this part is to separate liquid and vapor. The liquid collecting at the bottom to be drawn off and the vapor passing off at the top. (c) A fractionating tower or column. As the name suggests, this is a tower-like cylindrical vessel or chamber in which the vapors are condensed into several fractions. The modern tower is of the bubble-plate type so arranged that it contains a number of plates which permit some of the liquid to collect to make a seal, and excess liquid flows over through a down-pipe to the next lower plate. The rising vapors pass through risers to the bubble caps, of which there are usually a number on each plate, which are designed to cause the vapors to bubble through the liquid collected on the plate. As the vapors rise through the liquid from plate to plate there is partial condensation to form the fractions desired. It is possible to obtain different fractions for each plate but the usual practice is to take off only a few fractions, as collected from a group of plates and from the top. These flow to the condensing system proper.

It is clear that the bubble tower is an essential part of the still unit and may be considered to be condensing equipment. As operated there are additional accessories, such as exchangers, cooling or heating coils, float valves, showering or trim coils, and instruments for indicating pressure and temperature.

The fractionating tower is a part of the still because distillation continues there. The portions of the liquid continue to be evaporated from plate to plate. It is this action, together with accompanying condensation, that permits the tower to function as a separating or fractionating device.

Distillation methods are defined by Badger and McCabe as follows:

"In practice, distillation may be carried out in either of two main methods. The first method involves the production of a vapor by boiling the liquid mixture to be separated and condensing the vapors without allowing any liquid to return to the still in contact with the vapors. The second method involves the returning of part of the condensate to the still under such conditions that this returning liquid is brought into intimate contact with the vapors on their way to the condenser. The latter method is of such importance that it is given the special name of rectification.

"Rectification, the second method of distillation, has been developed in commercial practice to the point where it is extremely effective. Most of its applications were originally developed for distilling mixtures containing alcohol. In general, they are far ahead of the methods used in laboratory work. Instead of laborious and time-consuming fractional distillations involving methods closely allied to simple distillation, commercial practice has developed the use of continuous countercurrent rectification, carried out in elaborate and highly effective distillation apparatus equipped with what are known as fractionating columns. Essentially, a fractionating column is a device for bringing a stream of vapor and a stream of liquid into intimate countercurrent contact."

Reference: Badger and McCabe, Elements of Chemical Engineering.

Odor of Kerosene Controlled by Doctor Treatment

What is the process used by refiners to deodorize kerosene? What substances produce the bad odors?—W. N.

The lighter products of petroleum, such as gasoline and kerosene, when properly refined usually have an odor described as sweet hydrocarbon. There are a few oils though which because of their peculiar composition yield distillates which have an objectionable odor. The recognized source of these are nitrogen compounds, substances containing sulphur, such as hydrogen sulphide and the mercaptans, also complex phenolic substances. Probably the mercaptans are responsible for most of the malodorous petroleum liquids.

The conventional practice is to treat the raw kerosene with water, sodium hydroxide solution and the sodium plumbite or doctor solution for the removal of substances that impart an objectionable odor. This treatment is in most cases all that is necessary.

Some special naphthas and kerosenes are marketed with an artificial odor. Certain chemical products are used for this purpose. These were mentioned in this department in The Oil and Gas Journal of September 6, 1934, page 67.

British Standard Specification for Turbine Oils

Can you furnish the British Standard Specification for turbine oils, No. 489, 1933?—W. A. C.

The publication indicated was published by the British Standards Institution, London, May, 1933. This is in pamphlet form, 28 pages, containing in addition to the specifications for four grades of turbine oil, the standard methods to be used when examining oils of this type. The quality of turbine oil shall conform to the limits shown in the table.

The minimum flash temperature, for all grades, is 356° F.; sludge at 302° F. shall not exceed 1.5 per cent; total acidity, as expressed in mg. KOH per 100 grams of oil, shall not exceed 10; the loss by evaporation, volatility, shall not exceed 0.5 per cent; total sulphur shall not be above 0.3 per cent.

Deleterious sulphur shall be nil. The test is made on 25 ml. of oil in a test tube; a piece of polished copper foil is immersed in this and then the tube is held in a water-bath at 212° F. for 12 hours. At the end of the period there shall be no discoloration of the copper.

SPECIFICATIONS FOR TURBINE OILS

Grade	Viscosity Redwood No. 1, seconds at 70° F. Max.	Viscosity Redwood No. 1, seconds at 140° F. Max.	Viscosity Redwood No. 1, seconds at 140° F. Min.	Viscosity Redwood No. 1, seconds at 200° F. Min.	Cold test must be liquid above ° F.	Demulsification test not exceeding minutes
Light	450	75	60	40	32	2
Medium	630	90	75	42	32	2
Heavy	850	112	90	45	35.6	4
Extra Heavy	1300	140	112	51	35.6	6

Gravity, A.P.I. and Specific, of Paraffin Wax

The weight of paraffin wax varies according to the grade and we would like to have the specific and A.P.I. gravities of several of the common grades.—W. S.

Since paraffin wax is not a compound of uniform composition, being a mixture of many substances, it is necessary when considering its properties, to select some specific condition as a basis. Paraffin wax is classified for commercial purposes according to melting point, which is the most important characteristic.

Gruse reports, in Petroleum and Its Products, page 277, specific gravities of wax as determined by Morris and Adkins. (From Ind. Eng. Chem.; 19, 301, 1927.) I have added to these the equivalent A.P.I. degrees.

GRAVITIES OF PARAFFIN WAX

Melting point, °F.	Gravity at 60° F. Specific	Gravity at 60° F. A.P.I.
109.0	0.8801	29.2
115.1	0.8964	26.4
118.5	0.9053	24.8
123.2	0.9068	24.6
127.2	0.9200	22.2
130.0	*0.7780	...

*At 130° F.

According to Gurwitsch-Moore, Petroleum Technology, page 548, the specific gravities of paraffin waxes increase in parallel with their melting points. Examples are given of melting points from 132.8° F. to 179.6° F., with specific gravities 0.912 to 0.943 at 68° F.

Paraffin Wax Shows Three Types of Crystals

Can you give me a description as to what is the more common or proper form of crystals produced when paraffin wax collects in the sweating process?—C. H. T.

The forms of wax crystals are discussed, together with the authorities, by George A. Burrell in The Oil and Gas Journal, October 18, 1928, page 130. The following is quoted from the article:

"Padgett, Kelly and Hendrickson[1] have made photomicrographs of waxes from different oils and noted three types of crystallization.

(a) That from residual oils, petroleum and heavy rod wax distillates. These crystals are small and made to grow with difficulty.

(b) That from products high in wax, as slack wax and the ordinary paraffin wax of commerce. At first centers of crystallization of various shapes appear from which fine needles sprout. These needles under temperature control, grow in length and breadth, producing the interlacing condition peculiar to slack wax.

(c) Wax which crystallizes in plate, leaflet or tablet form. Sometimes needles are formed to develop overnight into a mixture of plate and leaflet crystals.

"In more recent work Morritt and Padgett[2] established that wax crystals are orthorombic at ordinary temperatures and that the plates, needles and fibers are simply variations in crystal habit caused by rate of cooling, hardness, viscosity of oil, orientation of crystal surface, surface tension, etc.

"Peck[3] found that a good sweating wax crystallizes as a uniform crystal type, whereas poor or nonsweating wax crystallizes from the distillate in several forms, depending on the temperature.

"Rhodes, Mason and Sutton[4], in crystallizing wax, found that crystallization always commenced in the form of plates. If the cooling was rapid (more than 0.1 degree Centigrade per minute) the small plates seemed to curl at the edges and actually roll up forming needles, the larger plates remaining giving a conglomerate of large plates and needles on complete solidification.

"Very slow crystallization gave large plates. With very rapid cooling the mass consists chiefly of fine needles with a few small plates. However, Carpenter's[5] results differed from that of Rhodes, Mason and Sutton in that it was observed (under the microscope) that when wax was slowly cooled from the liquid state needle crystals were first formed, not plate crystals.

"The more rapid the rate of cooling the smaller the crystals and, further, the more concentrated an oil wax solution, the smaller the crystals. Carpenter also noted that wax in one crystalline form will separate more readily from oil than in another form. The shape of the crystals had an important bearing on the ease with which the oil drained away. In needle form the crystals do not compact so much, thus leaving interstices from which the oil can flow upon pressing."

REFERENCES

[1]Ind. Eng. Chem., Aug., 1926, p. 832.
[2]Before Am. Chem. Soc., Swampscott, Mass., Sept., 1928.
[3]Idem.
[4]Ind. Eng. Chem. 19, 8, 925 (1927).
[5]Jour. Inst. Pet. Tech. 12, 288-315 (1926).

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

Less Costly to Repair Corroded Tanks Than to Replace Them

After a steel oil tank roof has become so corroded by sulphur that it is no longer serviceable the question arises as to whether it is best to build a new roof or to recondition the old one. I am trying to decide such a question. I would be glad to receive any information that might help me. I suppose the same question has arisen in the West Texas area, where they have oil of high sulphur content. Anything you can tell me about methods of reconditioning corroded oil tanks would be welcome.—E. S. K.

The most serious damage to steel oil tanks from corrosion is inflicted at the extreme top of the roof, but the bottoms and the upper part of the sides are attacked also. The Gulf Pipe Line Co., which is one of the largest transporters of oil from the West Texas district, has a large tank farm at Midland, Tex., and it is experimenting with various methods of reconditioning damaged tanks and with measures for checking corrosion.

Laboratory research has produced preparations designed to prevent rust accumulation and these are being used with success on tanks. The Gulf company has a large tank farm at Midland, Tex., and it has used an antirust compound with good results, spraying the inside of the top, the rafters and the top ring of the sides, applying the compound with a paint gun. Other companies have adopted the same method with equally satisfactory results.

Another method being tried to combat rapid corrosion of the tank tops is the placing of 10-inch breathers in the very top or apex of each roof instead of on the side of the roof as was the former practice. The method has not been on trial a sufficient length of time to prove the theory that vents so placed will carry off the sulphur vapors faster and thereby help to prevent corrosion in the tank tops, but the theory is regarded as sound by engineers.

Before a tank is repaired or reconditioned it is thoroughly drained and cleaned, and all rust and scale are hammered off. Many holes can be electric-welded and some are patched, but if a sheet is too badly corroded it is removed and replaced. Rafters are replaced where necessary and in some cases an entirely new rafter structure is installed.

Before repairing or reconditioning tank bottoms, they are thoroughly cleaned. All holes are welded or patched, or sheets replaced where necessary. After the bottom is thoroughly reconditioned a quarter of an inch of asphalt is spread over the steel. On top of this is spread a one-sixteenth inch layer of sand and portland cement. This is dampened and then 3½ inches of water is run in. Drain pipes are raised above this water level, the water remaining in the tank until it is drained for later reconditioning or for some other purpose. This water layer prevents the oil from mixing with the asphalt and disintegrating it, which would in turn allow the sulphur-impregnated oil to come into direct contact with the steel bottom and set up corrosion. An asphalt layer in the bottom of the tank costs around $600. Examination of re-bottoming work on one tank revealed that an asphalt layer placed in the tank was as good as when laid three years before.

Cost of reconditioning tank roofs is about one-quarter of what new roofs would cost.

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depths of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimate of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Barges Carry Drilling Equipment to Well Locations on Bayou

I have been much interested in the remarkable oil operations along the edge of the ocean in California, where wells are drilled out in the water through the use of caissons. I understand somewhat similar operations are being conducted in a bayou near the Gulf Coast in Louisiana, only that here the chief difficulty lies in setting up the necessary equipment for drilling the wells owing to the marshy character of the region. Could you tell me how this problem is met? Are the wells drilled out in the open water? It may be that you have told about these operations in The Oil and Gas Journal, but I have been a subscriber only a few months.—N. D. H.

The operations to which you refer are evidently those being carried on in the Leesville Field in LaFourche Parish, Louisiana, where activity amounting almost to a boom got under way early in 1934. Unusual operating conditions prevail. While part of the surface is a little higher than the adjoining marshes, it is swampy and the area is traversed by bayous and waterways making land development impossible. Most locations can be reached only by boat through the bayous or through canals. A network of canals has been dredged in the area.

The main artery of transportation is Bayou LaFourche, along the edge and banks of which most of the activity is found. The main canals and branches radiate from this. All equipment and machinery are moved into locations by barges, most of the wells being on the banks of the various canals.

While drilling in most instances, except in the bed of Bayou LaFourche, is done on land, floating power plants, with boilers and boiler feed pumps set up permanently on barges, are used by some operators. In the drilling of a well on the bank of some canal or bayou the boiler barge is moored to the shore adjacent to the rig. When a well is completed, it is necessary only to disconnect the steam lines and tow the boiler barge to a new location. A complete rig also can be moved on another barge.

The Texas Co. operates a floating electric power plant at Leesville for running a complete electric rig. This plant consists of Diesel engine driven generators permanently set up in a specially built enclosed steel barge, which like the boiler barges can be moved about through the canals and bayous to locations desired, where it is necessary only to moor the barge to the bank and then string the power lines to the drilling motors and the electrically operated pumps. This electric power barge is equipped with two identical units set down in the hull of the barge. Each unit includes a 242-horsepower Diesel engine equipped with an automatic fuel pressure control.

This electric power plant and the use of an electric rig have proved of advantage in many ways, particularly in economy of fuel, all of which must be barged in. A storage reservoir for the fuel is built in one end of the hull of the barge. Electric equipment on the rig, including motors for the drawworks and for the pumps, is of the type commonly used in other electric drilling outfits. Two 7¼x 14 pumps are used, each driven by a 150-horsepower, 440-volt, 60-cycle, 3-phase motor.

In the movement of oil from the field barges can lift between 2,000 and 3,000 bbls. at a time from the docks on Bayou LaFourche. The barges carry the oil to tankers. If you care for further details it is suggested that you read an article by Neil Williams in The Oil and Gas Journal for May 3, 1934, which fully described operations in the Leesville Field.

Fluid Level in Determining Rate of Pumping and Tubing Depth

I want to find out the fluid level of at least one of my wells in order to determine the best rate of pumping and the correct tubing depth. I believe there are various ways of ascertaining the fluid level, but I am not thoroughly informed about any one of them. I am writing to you for some information on this point.—E. T. D.

To begin with, it should be mentioned that if your well is a small producer it should be allowed to stand for a day or more before getting its fluid level, for the hole fills slowly in small wells.

The fluid level inside the casing may be ascertained with a steel measuring line and a heavy plumb bob operated from a reel fixed over the mouth of the well in the derrick. It is common practice to measure the fluid level with the bailer and sand line where cable tools are at hand. First the bailer is lowered into the well until it is partly or entirely beneath the water level. Then a mark is made on the sand line even with the derrick floor. As the bailer is raised from the well the sand line is measured from this mark down to the point at which moisture on the line or the bailer shows it to have been submerged.

Measurement of the sand line is accomplished readily by ascertaining the length of the line from the derrick floor up over the crown block and then down to sand reel flanges. This unit of measurement is applied by fastening a strand of manila fiber to the line at the derrick floor level and then raising the bailer until this marker reaches the sand reel flanges. The marker then is removed and another is attached to the sand line at the level of the derrick floor. The proceeding already described is repeated until the moistened point on the line or the bailer comes into sight.

The number of markers taken off the sand line at the reel, plus 1, multiplied by the unit distance previously obtained (that is, the length of line from the derrick floor, up over the crown block and down to the sand reel flanges), with addition to the distance from the last marker down to the derrick floor (as ascertained with tape line or gauge stick) is the depth to the water level.

It rarely is necessary to check the fluid level of wells where the fluid enters slowly enough to permit a fair degree of accuracy in noting the fluid level on the tubing. Wells of this kind ordinarily pump down and begin to pound down, indicating that the fluid level is close to the working barrel. The following method of ascertaining the rate at which fluid enters a small pumping well is suggested by H. B. Hill, of the U. S. Bureau of Mines: In shallow wells or wells of medium depth bail the fluid approximately to bottom and then by running a float (wood, bottle or tin container) on a measuring line observe the rate at which the fluid builds up in the hole. In the absence of caves or shot holes the volume of the open hole can be calculated and the quantity of oil standing in the casing can be determined accurately.

Why Was It Called That?

NATURE GAS

When workmen tearing down an old mill in Fredonia, N. Y., about 1824, observed bubbles rising from the water and these bubbles proved inflammable, the people of that town called the discovery nature gas because nature, without the help of man, provided it. A company drilled a hole 1½ inches in diameter into the limestone rock. The nature gas climbed up through this hole, lighted the new mill and was piped into homes, where it served as an illuminant at a cost of $1.50 a year each. For years Fredonia was the only town in America lighted by nature gas.

NATURAL GAS DEVELOPMENTS

Government Contracts for Well to Procure Helium

The award of a contract for the drilling and completion of a natural gas well on the helium-bearing Cliffside structure, in Potter County, Texas, has been announced by the U. S. Bureau of Mines, Department of the Interior. This well, to be known as the U. S. Bureau of Mines' No. 2-A Bivins, will be in the C NE Section 22, Block 6, B.S.&F. Survey, not far from wells now producing. The Drilling & Exploration Co. of Dallas, Tex., is the successful bidder.

The new well is being drilled to augment the supply of natural gas from which the Bureau of Mines extracts helium—the noninflammable gas used by the Army and Navy for lifting lighter-than-air craft—in the government-owned plant about 7 miles west of Amarillo, Tex.

The United States acquired the gas rights in fee in a solid block of more than 50,000 acres covering the Cliffside structure, through negotiations conducted by the Bureau of Mines. That government agency also designed and built the helium plant and operates all of the properties.

Four producing wells on the Cliffside structure have supplied all of the helium-bearing natural gas that has been processed in the plant since it started to operate in April, 1929. The 62,000,000 cubic feet of helium extracted from this gas, for use by the military services, is more than one-half of all helium ever recovered in the world. The initial rock pressure of the wells on the Cliffside structure was 723 pounds per square inch and the pressure decline over the five-year period of operation has been only about 2 per cent.

The four producing wells, completed at depths of about 3,500 feet in the dolomitic section of the Panhandle big lime formation, were drilled with cable tools. It is planned to use rotary equipment for drilling the new well to the top of the lime formation, but cable tools will be used to complete the well in the producing horizon.

PHILADELPHIA GAS RATE

PHILADELPHIA, Pa., Nov. 26.—Samuel M. Vauclain, chairman Philadelphia Gas Commission, said the present retail gas rate of 90 cents per 1,000 feet will be continued in Philadelphia during 1935.

"During the fiscal year ended August 31, 1934, the operating costs of the Philadelphia Gas Works Co. amounted to $10,105,371 as compared with the total operating costs of $9,452,963 for the preceding fiscal year, or an increase of $652,407," he stated. "The chief factor contributing to this heavy increase in costs was the rising prices of virtually all materials and supplies used in the manufacture and distribution of gas."

NO CLAREMORE FRANCHISE

Franchise for the Oklahoma Natural Gas Co. was voted down at Claremore, Okla., last week, in a special election. The vote was: For, 378; against, 786. The proposed franchise, submitted to a vote by the city council, provided for a 2 per cent tax on residential and commercial sales. The company has been operating without a franchise in Claremore since 1927. There is no other gas proposition before the people of Claremore.

Company officials said service would continue as formerly, and the result of the election would not affect it in any way.

Gas Association Criticizes Activities of the Tennessee Valley Authority

The inroads of the Government's business, the Government's so-called public utility "yardsticks," the Tennessee Valley Authority and the Electric Home and Farm Authority were criticized and condemned before the sixteenth annual convention and exhibition of the American Gas Association held in Atlantic City recently. The following resolution was adopted:

"Resolved:

"The activities of the Tennessee Valley Authority, in employing the credit, the taxing power and the prestige of the Federal Government to foster the public generation, transmission and distribution of electricity constitute a serious threat to the economic stability of the gas industry.

Employes Total Abousт 120,000

"For many years the industry has rendered a necessary and useful public service in the sale of both manufactured and natural gas. It now employs approximately 120,000 workers, having maintained the highest ratio of employment of any major industry through these years of depression. Five billions of the savings of our citizens are invested in its plants and facilities. Although its return on its capital has been relatively low, it, nevertheless, has maintained a high standard of public service. For many years its functions have been regulated by the public utility commissions of the several states. It believes that in operating under public regulation the industry in common justice is entitled to demand that it be not destroyed by the hands of public authority.

"During its entire life it has met and surmounted the severe competition of other fuels and sources of energy, such as coal, wood, oil and electricity. Even in the face of reduced revenues and the rapidly mounting fuel and labor costs that have resulted from the national recovery program, it expects to continue to meet normal competition and serve its public on an increasing scale.

Will Hurt Gas Customers

"When, however, the Federal Government destroys the established competitive balance by such artificial programs as that of the Tennessee Valley Authority, a grave injustice is done. The electric rates proposed by the Tennessee Valley Authority contingent upon its ability to sell electricity to the average householder in vastly greater quantities than the national average experience has heretofore demonstrated to be possible. To do this it will be necessary to employ promotional methods which will induce domestic customers generally to substitute electricity for gas in the operation of kitchen ranges, refrigerators, water heaters and other domestic appliances. This new business will inevitably come out of the pockets of established gas companies, in most cases to the detriment of the consumers.

"The Tennessee Valley Authority program of electric development is founded on use of government funds—to which the gas industry itself is a large contributor. The Tennessee Valley Authority is free from the heavy tax burdens that private utilities must bear and escapes most, if not all, of the costs and limitations imposed by regulatory bodies. The Tennessee Valley Authority does not have to comply with many parts of the Government's recovery measure. It enjoys the co-operation of other agencies of government in loans and grants to extend the scope of its electric markets. Finally, it has the backing of Federal credit in the promotion and financing of electric appliances and is supported by the powerful prestige of the Government of the United States.

Competition Is Unfair

"Such competition is unjust and unfair. It is punitive in nature and is not based on sound business principles. It violates the avowed purpose of the Tennessee Valley Act itself, to foster 'an orderly and proper physical, economic and social development' of the area. If carried out as announced and if extended to other areas, it will result in grave injury to the gas industry, its workers, investors, and consumers.

"Therefore, this convention of the American Gas Association instructs its officers and directors that they take all necessary and convenient measures to bring the true facts of this serious situation before all proper officials of Government and before the American public; and that they endeavor to secure the restriction of the Tennessee Valley Authority, or any other similar public programs, within fair, normal and economic competitive limits and so prevent undue injury to the gas industry."

One of the important talks made before the convention was that delivered by Judge H. O. Caster, member of the executive committee of Henry L. Doherty & Co., and president of the association for the 1933-34 year.

Also Ruin Gas Companies

In speaking on the TVA Judge Caster said that since the Government has denied that the TVA is subject to state control, the latter organization can go into the Tennessee Valley and sell electricity at a price below the cost of production, or even give it away, thereby ruining not only the electric companies in the area but the gas companies as well.

"The administration has embarked upon water power projects for the avowed purpose of testing the cost of electric service," Judge Caster said. "By authority of the National Recovery Act, it is offering to loan to any municipality desiring to construct a utility plant money for its construction, with the agreement that 30 per cent of such money advanced shall be a donation. In many instances such loans have been approved to cities already adequately served by privately owned and operated plants. In many communities, however, the citizens have voted not to accept such propositions. Where the communities are adequately served by privately owned and operated plants, such government loans cause an unwarranted destruction of private property."

COLUMBUS DENIED CUT

COLUMBUS, Ohio, Nov. 26.—Ohio Utilities Commission has denied the motion of city attorneys seeking a reduction in the Columbus gas rate from 55 cents to 48 cents, pending final disposition of the rate case. The commission ordered the gas company to post $200,000 bond to insure refund to customers should the court approve the ordinance.

New Gas Plants Make No Profits for Four Years

TOPEKA, Kans., Nov. 26.—Testifying in the State Corporation Commission's hearing into Cities Service gas rates, E. A. Steinberg, of Dallas, Tex., valuation engineer for the Lone Star Gas Co., said his concern's experience was that new plants did not make money until the fifth year of their operation.

Mr. Steinberg explained that the ultimate number of customers did not become gas users until the fifth year nor did the customers use their maximum amount of gas until after four years.

Answering a question by Chairman Homer Hoch, Mr. Steinberg said gas rates for new distributing plants were figured to take into consideration a portion of the loss during the first four years.

Mr. Steinberg, a witness for the Cities Service interests, also said rates had little or nothing to do with attracting new business as the customers desired service and were willing to pay for it.

The hearing was concerned with valuation figures for the Cities Service distributing system at Madison, valued by the State at $20,000 and by the Cities Service interests at $28,000. The commission is to determine reasonable consumer rates for Madison and Baldwin as well as to fix a reasonable rate to be paid by the distributing companies for main line gas.

RATE HEARING IN GEORGIA

ATLANTA, Ga., Nov. 26.—The Georgia Public Service Commission has reopened its general investigation of gas rates in Georgia, under a rule requiring all gas companies to show why their rates should not be reduced.

The commission took up the case of the Gas Light Co. of Columbus, operated by the Georgia Power Co. in Americus and Columbus, Ga., and Preston S. Arkwright, president of the company, stated that new and reduced rates were put into effect in Columbus when the company changed over to natural gas in May, 1931, resulting in a reduction of 51 per cent in general rates and 77 per cent in industrial rates. He argued there was no necessity for further reduction.

Although admitting rates in Americus were somewhat high, Mr. Arkwright declared the gas company there had not earned operating expenses for two years and could not stand a reduction in rates.

GAS REPORT IS AVAILABLE

LANSING, Mich., Nov. 26.—Copies of a preliminary report of a survey of the circumstances and conditions affecting the production, transmission, distribution and consumption of natural gas in Michigan entitled "The Market for and Supply of Natural Gas in Michigan," may be obtained from the Michigan Public Utilities Commission at Lansing. The report is the result of a survey recently conducted by representatives of the U. S. Bureau of Mines, the Michigan Public Utilities Commission and the geological division of the Michigan department of conservation.

MONROE, MISS., FIELD

NEW ORLEANS, La., Nov. 26.—Falling pressure in the Monroe County, Mississippi, gas field has caused rationing of all industries, heavy heating plants and household heating use in the towns of Amory, Aberdeen and Tupelo, Miss. A pipe line is being laid connecting the Amory Gas Co., which serves the three communities, with the pipe line of the Southern Natural Gas System near West Point, Miss.

PERSONAL PARAGRAPHS

VALENTINE M. KIRK left Frannie, Wyo., last week for Tennessee, where he will join MRS. KIRK who is visiting friends.

* * *

WILLIAM GROUNDWATER, director of transportation of the Union Oil Company, has been elected a director of the Los Angeles Steamship Association and will serve for the ensuing year.

* * *

JOHN S. CURRIE, HUGH SIMPSON, and A. J. MAIR, of the International Petroleum Company, Ltd., were passengers on the Grace liner, Santa Maria, which left New York City, November 24 for Talara, Peru.

* * *

FRANK H. CONRAD, who received his Ph.D. degree from the University of Washington in June, has taken a position as chemist in the chemical division of the Standard Oil Company of California, Richmond, Calif.

* * *

EDWARD LYONS, employed by the Royalite Oil Company in the Turner Valley Field, suffered a fracture of the right knee and right leg from being crushed by a 6-inch pipe. He is recovering at the Holy Cross Hospital, Calgary.

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R. C. JONES, drilling contractor of Tulsa, was in New York City last week.

* * *

W. H. BURKE, engineering department, Shell Petroleum Corporation, spent his vacation at Los Angeles and San Diego, Calif.

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E. B. KOHL, representative for the Brown Instrument Company at Houston, Tex., is on a five weeks' business trip to Tampico, Mexico.

* * *

G. R. AMES, Tulsa manager for the Phillips Petroleum Company, was visiting Hugo and other southern Oklahoma towns, and Wichita Falls, Tex.

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RUSSELL S. KNAPPEN, Gypsy Oil Company; and C. C. LOVEALL and ROBERT TURPIN of the Skelly Oil Company, were in Ponca City, Okla., last week.

* * *

DR. J. A. L. HENDERSON, consulting petroleum and mining engineer, who has been visiting in Canada, has returned to his offices in London, England.

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G. V. ACKERMAN, in charge of the petroleum division of the Amtorg Trading Corporation, has returned to the New York offices from a trip to European points.

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F. B. (SID) ROBERTS, oil operator of San Antonio, Tex., who formerly lived in Tulsa and Nowata, Okla., was in Tulsa on a combined business and pleasure trip.

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JOHN McFADYEN, vice president and Rocky Mountain division manager of the Ohio Oil Company, of Casper, Wyo., is in California inspecting the company's operations.

* * *

L. SPRARAGEN, magnetometer operator, is now at Pensacola, Fla., directing the survey of a 200,000-acre block in southern Alabama and western Florida, for ROY L. ESTABROOK, of Texas.

FRANK FRARY, independent oil operator of Los Angeles, Calif., was recently married to MISS ANNA M. DILWORTH, of Pasadena, Calif.

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P. D. MELLON, chief engineer of the Canadian Western Natural Gas, Light, Heat & Power Company, of Calgary, visited Lethbridge, Alberta, recently.

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ANDY RUTHERFORD, who has been drilling on Oil City Royalties' No. 1 test in the Waterton Lakes Park area, has returned to Calgary, Alberta, for the winter.

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R. R. IRWIN, president, and JAMES P. KEM, vice president and general counsel for the White Eagle Oil & Refining Company, Kansas City Mo., were called to Casper, Wyo., to attend Federal labor board hearings.

* * *

WILLIAM BENNETT BERWALD, of the Bureau of Mines at Bartlesville, Okla., was married on November 10 to MISS CLETA EMENHISER of Bartlesville. The marriage ceremony was performed by the REV. DONALD SHERIDAN, in the First Christian Church.

E. B. COOLIDGE, chairman of the Montana State Petroleum Conservation Board, recently visited Calgary, Alberta, and inspected the Turner Valley and other Alberta fields.

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ROBERT H. GARRISON, petroleum engineer, has been elected president of the Los Angeles Basin chapter of the American Petroleum Institute. Other officers are E. E. PYLE, vice president, and E. F. DAVIS, secretary-treasurer.

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R. E. DONAVAN, safety engineer of the Standard Oil Company of California, was one of the principal speakers at the recent meeting of the Los Angeles chapter of the American Petroleum Institute and chose for his topic, "Interesting and Unusual Oil Field Accidents."

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GEORGE D. OLDS, JR., assistant to president, of Ponca City, Okla.; R. S. SHANNON, of Denver, Colo., general superintendent of the Rocky Mountain division; JOE DYER, manager of the pipe line department, Ponca City; JOHN MORAN, WALTER MILLER, and JOHN P. AKOLT, all of the Continental Oil Company, were in Casper, Wyo., attending a labor hearing.

* * *

J. W. COWLES, head of the gas department of Shell Petroleum Corporation, has been on a vacation.

* * *

E. G. LEMMERS, secretary of the Empire State Oil Company, is on a two weeks' vacation touring the Pacific Coast.

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GEORGE B. JENKINSON, JR., assistant chief of the land department of the Stanolind Oil & Gas Company, Tulsa, was in Casper, Wyo., last week.

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F. A. LEOVY, president of the Gulf Oil Company at Pittsburgh, Pa., was a business visitor to the Gulf Production Company's offices at Houston, Tex., last week.

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JOHN T. LONSDALE, in the department of geology at Texas A. and M. College, at Bryan, Tex., addressed the Houston Geological Society at its weekly luncheon last week.

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R. G. A. van der WOUDE, president of the Shell Union Oil Company with headquarters at New York, visited the Shell Petroleum Corporation's offices at Houston, Tex., the past week.

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R. D. RISSER, production superintendent for the Shell Petroleum Corporation with headquarters at Iowa, La., was a business visitor to the company's offices at Houston, Tex., last week.

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W. S. S. RODGERS, president, and JUDGE C. B. AMES, chairman of the board of directors of the Texas Company, with headquarters at New York, made a four days' tour of the company's producing properties on the Gulf Coast.

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JOE DAWSON, zone agent, and ED EASTIN, of the scouting and leasing department, of the Gulf Production Company, have moved the district offices of the company in San Antonio, Tex., from the Milam Building to 1105 Alamo National Building.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

November 29, 1909

The Oklahoma Pipe Line Co. is organized with James E. O'Neil, president; D. C. Stewart, general superintendent; John L. Havice, secretary and treasurer. This has resulted in promotions in the Prairie Oil & Gas Co.'s organization. George Coyle succeeds D. C. Stewart as assistant superintendent of the Prairie; John Manion will succeed Mr. Coyle, which makes him superintendent of the Prairie in Kansas. Martin Loftus of the Prairie will be superintendent of the Oklahoma Pipe Line in Arkansas; George Casey succeeds Mr. Manion as district foreman, and J. D. Moroney takes Mr. Loftus' place as a Prairie gauger in the Neodesha district. Ed Latimer is superintendent of the Oklahoma division of the Prairie.

20 Years Ago

November 26, 1914

Fohs & Gardner, geologists, thank The Oil and Gas Journal for its confidence in the usefulness of geologists in the oil business. Mr. Gardner writes that the days of the old-time geologist with a glib tongue but with little or no experience among the briars and brush is passing and that geology is now a matter of hard work.

The production of Oklahoma is 335,800 bbls. per day; Kansas, 8,500 bbls.; North Texas, 19,000 bbls.; North Louisiana 27,000 bbls. Total Mid-Continent 381,900 bbls. Production of the Gulf Coast (Texas-Louisiana), is 20,000 bbls. of fuel oil and 15,000 bbls. of refinable oil. There is no production in Texas outside the Gulf Coast and northern Texas. California is producing 282,000 bbls. per day.

A. A. Richards is elected president of the Oklahoma Oil Producers Association for the coming year. Arthur Hull is the new vice president; E. T. Tucker and Charles W. Grimes are re-elected secretary and treasurer, respectively.

The Paden district in Okfuskee County is promised a boom by reason of the discovery of oil in Section 8-12-7, Oklahoma. It is impossible to get a bed in either Paden or Prague and oil men are sleeping on porches, in tents and even in wagon boxes.

10 Years Ago

November 27, 1924

The Papoose Pool in Oklahoma and pools in Cowley and Sumner Counties in Kansas, are the latest to attract oil men in search of crude in those States.

Lewis Emery, Jr., pioneer oil man and prominent in Pennsylvania politics, dies in Bradford, Pa. He started producing oil in Pithole, Venango County, Pennsylvania, and at his death owned production in the Pennsylvania and Mid-Continent fields, a refinery in Bradford and many other interests. He was one of the founders of the Pure Oil Co. and the United States Pipe Line Co. He left a large fortune.

V. R. Garfias estimates world crude oil production in 1924 at 1,013,010,000 bbls., of which the United States will contribute 718,000,000 bbls.

HOLLAND S. REAVIS was recently guest of honor and speaker at a luncheon of the Anglo-American Press Association at the Hotel Mirabeau, Paris, France.

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E. A. WYMAN, chief geologist in the Kansas district for the Amerada Petroleum Corporation, has returned after a sojourn in the Michigan fields for his company.

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HENRY BOUREE, president of the Franco-Wyoming Oil Company, returned to Paris, France, last week on the French liner, Paris, which left New York City, November 24.

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H. E. BRANDLI, vice president and general manager of the Cities Service Export Company, returned to the New York offices last week from a visit to the Mid-Continent and Gulf Coast offices of the company.

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RUSSELL B. BROWN, formerly counsel for the Independent Petroleum Association of America, and now compliance director for the petroleum code under the Planning and Coordination Committee, was a Tulsa visitor last week. He was also the principal speaker at a meeting of members of the Kansas state petroleum code committee in Wichita.

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D. C. BURNHAM has been appointed local manager of the Philadelphia warehouse of the Pittsburgh Plate Glass Company to fill the vacancy caused by E. D. GRIFFIN being made general manager of the paint and varnish division of the company. E. C. MYER, assistant manager of the Newark warehouse, will succeed Mr. Burnham as manager of the Atlanta warehouse.

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JOHN B. JAMISON, of Concord, N. H., interested in the Mid-Continent Field, was a recent visitor to Tulsa.

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A. JACOBSEN, president of the Amerada Corporation, of New York, has been visiting the Tulsa offices of the Amerada Petroleum Corporation.

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HUGH CORROUGH, chief engineer for the Empire Oil & Refining Company, with offices in Tulsa, has taken a temporary assignment at the Shreveport, La., refinery of the Louisiana Oil & Refining Company, and is moving his family to Shreveport.

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HARRY STOUT, of Shell Oil Company, is receiving congratulations from members of the company and oil field employes in the Long Beach Field, California, as a result of his heroic work in saving the life of GEORGE YOUNG of the Shell who was pinned against the electric control panel. Both men were severely burned.

* * *

THOMAS PITTMAN, who recently resigned as foreman of the Maple Leaf Petroleum refinery at Coutts, Alberta, to join the Home Oil Company at Great Falls, Mont., was presented with a gold watch by the Maple Leaf employes. Mr. Pittman came to the Maple Leaf refinery nine years ago from Lewiston, Mont., as electrician and later became foreman. At Great Falls he will be associated with RALPH M. PARSONS in installing and operating a Dubbs cracking plant for the Home Oil Company.

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C. B. AMES, chairman of the board of directors of the Texas Company; W. S. S. RODGERS, president; W. H. MITCHELL, director, Chicago; R. OGARRIO, vice president, New York; W. G. DUNNINGTON, director, New York; C. A. McCULLOCH, director, Chicago; R. F. BAKER, assistant to Mr. Ogarrio and chief geologist, New York; J. H. LAPHAM, director, San Antonio, Tex.; H. W. DODGE, vice president, New York; W. K. HOLMES and L. J. NORRIS, director, St. Charles, Ill., inspected Tulsa properties last week.

"Better Ask Pinkie," They Tell You

"You had better ask Pinkie about that," is a phrase that gains significance with repeated use in studying the technological revolution now under way in the Pennsylvania Grade oil region. And a distinctive feature of the change going on is the presence of young men who obtained their college degrees and, after a few years of experience in refining plants, are upholding the tradition of leadership of the region's lubricating oils and extending the list of marketable products.

PHILIP M. ROBINSON

Philip M. (Pinkie) Robinson, who is in charge of the research and development department of the Pennzoil Company, is a Texan by birth and had his first experience in the oil industry as a chemist in the Port Arthur refinery of the Gulf Refining Company. He was 22 years old in 1925 when he left his job with the Gulf to attend the University of Michigan. At the university he was employed by the E. B. Badger & Sons Company, as research assistant in its research and experimental laboratory in Ann Harbor.

After receiving his science and chemical engineering degrees in 1928, Mr. Robinson was employed by the Pennzoil Company as assistant superintendent at its plant No. 2, in Oil City, Pa. In January of 1931 he took charge of the research and development department of the company.

Mr. Robinson is a member of the Society of Automotive Engineers, American Chemical Society, American Petroleum Institute, and the Engineers Society of Western Pennsylvania. Outside of the plant his hobbies are baseball and fishing with wet or dry flies for trout. He is married and has a daughter.

D. L. FRAWLEY, of Pittsburgh, Pa., vice president and director of the Barnsdall Corporation, visited the Tulsa offices of the company during the past week.

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JOHN H. EVANS, Rocky Mountain division engineer of the Stanolind Oil & Gas Company, left Casper, Wyo., for the Frannie Field in Park County, where he is making an inspection of the company's equipment in the field.

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ARCH STAFFORD, of Quaker Petroleum Company, has been made chairman of the entertainment committee for the Omaha Petroleum Club, which is preparing plans for the Nebraska Petroleum Marketers, Inc., convention at Omaha on December 4, 5 and 6. A. W. ANDERSON, of Deep Rock Oil Corporation, as secretary, is assisting Mr. Stafford.

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H. L. PHILLIPS, president; W. L. CONNELLY, chairman of the board, and O. E. HOUGHERTY, superintendent of the Mid-Continent division, Sinclair Prairie Oil Company, Tulsa, and JOHN MANION, president of the Sinclair Pipe Line Company, Independence, Kans., were in Casper, Wyo., on company business.

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THE following changes have been announced by the Gulf Refining Company: G. B. BURKHALTER, formerly assistant district sales manager in charge of lubricating sales, New Orleans, La., district, has been appointed assistant district sales manager in charge of lubricating sales, Toledo, Ohio, district. R. F. A. BENSON, formerly district superintendent industrial lubricating sales, New Orleans district, has been appointed assistant district sales manager in charge of lubricating sales, New Orleans district. G. O. SPAUR has been appointed district superintendent industrial lubricating sales, Toledo district. J. B. KNOTTS has been appointed district superintendent industrial lubricating sales, Atlanta, Ga., district. J. W. BASORE has been appointed district superintendent industrial lubricating sales, New Orleans.

JOHN S. YOUNG, magnetometer operator of the United Gas Public Service Company, has been transferred from Monroe, La., to Mobile, Ala., and will be in charge of a survey of southwestern Alabama.

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J. L. NICHOLS, production superintendent in Kansas for the Stanolind Oil & Gas Company, and G. L. TAYLOR, geologist for the same company, returned from a hunting trip with two fine bucks.

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OVID MAYBERRY, secretary to GLENVER McCONNELL, chief mechanical engineer for Shell Petroleum Corporation, was reported recovering in St. Johns Hospital, where he underwent an appendectomy.

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J. RAY McDERMOTT, rig building contractor of Houston, Tex., was a visitor in Tulsa last week. He is president of the National Rig Building Association. R. W. (DICK) SAGE, of Augusta, Kans., former president, also was in Tulsa.

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MISS KATHERINE WITTE, information secretary at the Shell Petroleum Corporation production offices, Tulsa, has returned after having been confined to a hospital for five weeks, during which time she underwent an appendectomy.

* * *

W. B. HEROY, chief geologist for the Consolidated Oil Corporation, parent company of the Sinclair Prairie Oil Company and allied interests, and president of the American Association of Petroleum Geologists, was a visitor in Tulsa, Wichita and Dallas last week, where he conferred with members on the 1935 convention of the A.A.P.G. for Wichita next March.

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JAMES C. GRAVES and EDWARD W. STEWART were chosen for two-year terms as representatives of the drilling contractors division of the Oil and Gas Association at a meeting of the division directors last week. Their terms will begin December 1.

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DR. DONALD F. McDONALD, associated professor of geology of St. Francis University, Antigonish, Nova Scotia, has left for northern Saskatchewan to report on the recent oil discovery at Hudson Bay Junction. He will be engaged in the work about a month.

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P. W. PARKER, president of the Standard-Vacuum Oil Company, is en route to the Far East for an inspection of the company's properties. G. S. WALDEN, chairman of the board of the company, who has been in Europe, will also visit points in the Far East before his return to the United States.

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W. P. CLARKE has been placed in charge of the branch office of the Eastern Gulf Oil Company, operating subsidiary of the Gulf Refining Company, at Saginaw, Mich. Transfer of the offices from Kentucky will bring to Michigan B. F. HAKE, geologist, and O. P. NICOLA, scout for Eastern Gulf Oil Company.

* * *

HUGH J. CAMERON has been employed by the Trumbull Asphalt Company, Riverside, Ill., as research engineer to initiate and carry on development work in connection with the marketing and processing of the company's products. He was formerly connected with the Works Laboratory of the General Electric Company, Fort Wayne, Ind.

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WILLIAM LANGE, chief engineer for the Wadhams Oil Company refinery at East Chicago, Ind. (branch of Socony-Vacuum), is leaving December 1 on a trip to Europe. Mr. Lange plans to cross on the S. S. Europa and while on the continent will visit with his family in Germany, in addition to touring various refineries of interest, before his return late in January.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended Nov. 24 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
55⅝	39	1,100	47¾	46½	47¾	Amerada Corp.	774,875	N.P.	50cQ	10-31-34	47⅝	18½	22¾	12	23	11¼
35¼	21½	8,600	26⅛	25⅛	25⅝	Atlantic Refining	2,673,834	$25	25cQ	12-15-34	32½	12⅝	21⅞	8⅝	23⅝	8⅝
10	5⅞	5,100	6⅝	6¼	6⅜	Barnsdall Corp. A	2,248,795	$5	....	5-11-31	11	3	7	3⅜	14½	4
19¼	6⅞	38,000	8	7	7⅞	Columbia Gas & Elec.	11,610,036	N.P.	....	5-15-34	28½	9	21	4¼	45⅝	11⅝
14¼	7¼	17,200	8⅝	8	8⅜	Consolidated Oil Corp.	14,218,835	N.P.	14c	10-31-34	15⅝	5	9	4	15⅞	4½
22¾	15¾	18,900	19⅜	18⅜	19⅜	Continental Oil of Delaware	4,738,593	$5	25c	10-31-34	19⅝	4⅞	9⅜	3⅝	12	5
23½	12	17,700	17¾	16⅞	17	General Asphalt	387,149	$10	....	6-15-32	27	4⅝	15½	4¾	47	9⅝
5⅝	2½	3,200	3	2½	2⅞	Houston Oil (new)	1,098,618	$25	....	10-17-30	7⅜	1⅞	5⅜	1⅜	14⅛	3
3⅜	1	1,500	1⅛	1	1	Louisiana Oil Refining	1,302,158	N.P.	....	.....	4	⅝	2¼	½	4½	1
14⅜	9⅛	2,400	11⅝	11	11⅝	Mid-Continent Petroleum	1,857,912	$10	25c	11-15-34	16	3¾	8⅞	3¾	16¾	5
21¼	10	1,200	13½	12	13⅛	National Supply of Delaware	382,591	$25	....	5-15-31	28⅝	4	13	3½	10¼	5
15⅞	8½	7,200	10½	10	10¼	Ohio Oil Co.	6,563,107	N.P.	15c	12-15-34	17⅝	4¾	11	5	19½	5⅛
8⅞	5½	3,500	7¼	6	7	Pacific Western Oil	1,000,000	N.P.	25c‡	10-25-33	9½	3	8	3	15	2⅞
2½	⅝	100	1	1	1	Panhandle P. & R.	198,770	N.P.	....	.....	4¼	⅝	1¼	¼	4¼	⅝
20¾	13⅜	4,800	16	15¼	15⅝	Phillips Petroleum	4,154,687	N.P.	25c	12-1-34	18¾	4¾	8½	2	16⅝	4
16⅜	8	6,300	9⅝	8¼	8⅜	Plymouth Oil Co.	990,261	$5	4% Stk.	12-22-34	17⅝	6¾	12½	6	18	6
14⅞	6¼	7,200	7¼	7	7	Pure Oil	3,038,370	N.P.	....	9-1-30	15⅜	2½	6½	2⅞	11⅞	3¼
39¼	30	800	30¼	30	30¼	Royal Dutch N. Y. shares	432,224	$14	$1.35	7-31-34	39¾	17⅝	23¾	12⅛	42⅝	13
38⅜	20¾	3,400	27	25¾	26½	Seaboard Oil of Delaware	1,204,460	N.P.	15cQ§	12-15-34	43⅜	15	20⅜	6⅝	20¾	5½
11½	6	3,200	6⅞	6⅝	6¾	Shell Union Oil	13,070,625	N.P.	....	6-30-30	11⅝	4	8¾	2½	10¼	2½
89	57	800	70½	69	70	Shell Union Oil pfd.	400,000	$100	....	7-1-31	61	28½	65¼	18	78	15
16¾	7¼	14,900	16¾	15½	16¾	Simms Petroleum	461,000	$10	30c	8-1-34	12⅜	4⅞	7½	3¼	11	3½
11½	6	600	7⅜	7¼	7¼	Skelly Oil	1,008,514	$25	....	12-15-30	9⅞	3	5¾	2½	12⅞	2
19⅞	12½	24,900	14⅞	14⅛	14¾	Socony-Vacuum	31,019,694	$25	15cQ	12-15-34	17	6	12¼	5¼	21	8⅝
42⅞	26½	13,100	33¼	32½	32½	Standard Oil of California	13,102,900	N.P.	25c	12-15-34	45	19½	31⅞	15⅛	51¾	23⅛
32¾	23¼	21,900	25	23⅝	24	Standard Oil (Indiana)	15,941,894	$25	25cQ	12-15-34	34	17	25½	13⅛	38½	13½
41	27	No sales	..	..	..	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	39⅞	12¾	16½	7	19	7¾
50⅛	39¼	16,700	42⅞	41¼	42⅞	Standard Oil of New Jersey	25,740,065	$25	50cSA§	12-15-34	47½	22¾	37⅜	19⅞	52½	26
74¼	51½	800	74¼	73	73½	Sun Oil	1,733,013	N.P.	25cQ†	12-15-34	59	35	39⅞	24⅜	45¼	26¾
29⅜	19¾	8,700	22	21½	21⅞	Texas Corp.	9,486,417	$25	25cQ	1-1-35	30⅛	10¾	18¼	9¼	36¼	9⅞
6½	2½	1,400	3⅝	3½	3⅝	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	6½	1⅜	4	1½	6½	1⅞
14⅜	8	4,400	9⅛	8¾	9	Tide Water Associated	5,618,672	N.P.	....	2-16-31	11¾	3⅛	5⅝	2	9	2¼
85¼	64½	1,200	81½	79¾	81½	Tide Water Associated pfd.	666,524	$100	$2.	12-22-34	65¼	23½	60	20	68	20½
20½	11½	5,600	16½	15½	16¼	Union Oil of California	4,386,070	$25	25cQ	11-10-34	23⅜	8½	15⅝	8	26⅝	11
21¾	15⅝	1,600	21½	21	21¼	Union Tank Car	1,200,000	N.P.	30cQ	12-1-34	22¾	10½	19¼	11¾	25⅛	16
5¾	2½	1,600	2¾	2⅝	2⅝	Wilcox Oil & Gas	424,839	$5	....	5-10-28	5½	2	8¾	2¾	9⅜	2¾

*Ex-dividend. †Plus extras in common stock. ‡Initial dividend. §Plus extras.

Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended Nov. 24 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
38	26	50	31	31	31	Buckeye Pipe Line Co.	200,000	$50	75cQ	12-15-34	39¾	25	35	17½	56	30
5½	2	1,100	2⅜	2¼	2⅜	Caribb Syndicate	579,000	25c	....	.....	7¾	¼	⅝	¼	2⅜	¼
132	115	100	132	132	132	Chesebrough Mfg. Co.	120,000	$25	$1Q†	12-28-34	129	71	90	53	129½	75
4¼	1½	19,100	1⅝	1½	1½	Cities Service	37,804,394	N.P.	....	6-1-32	6¼	1½	6⅞	1¼	20¾	5
3¼	⅝	1,000	⅝	¾	¾	Colon Oil	2,200,000	N.P.	....	.....	4	¼	1¼	¼	3½	⅛
3⅞	1	1,700	1¼	1	1	Cosden Oil	399,687	$1	....	.....	3⅞	1⅜	2⅜	¼	3¾	⅜
14⅜	9⅝	4,100	13¼	13	13¼	Creole Petroleum	6,974,356	$5	....	.....	12	4¾	3¼	1⅜	3⅞	1⅝
7½	4¼	100	4⅝	4⅝	4⅝	Darby Petroleum	509,696	$5	25c	7-25-34	8	2⅛	7⅛	1⅝	2½	1⅝
2¼	1	2	1	1	1	Derby Oil & Refining	263,162	N.P.	....	.....	2¾	⅞	3	1	6	1½
37	30	No sales	..	..	..	Eureka Pipe Line	50,000	$100	$1Q	11-1-34	41¾	20	35	18	36	19
76¾	49¾	2,400	57	54½	57	Gulf Oil Corp.	4,538,101	$25	....	10-1-31	62	24	44⅜	23	75½	25⅜
46⅜	33¼	7,400	44⅜	41⅞	44½	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	1-2-35	105½	40	55	35⅝	72	44½
17⅞	12⅝	9,100	17⅝	17¼	17⅜	Imperial Oil of Canada	26,857,152	N.P.	25cSA†‡	12-1-34	15⅞	6½	10⅞	6¼	18¼	7⅜
6⅞	3¾	400	4	4	4	Indiana Pipe Line	300,000	$10	15cSA†	11-15-34	8	3⅛	7½	2¾	21⅛	5½
33⅜	19⅜	14,100	32¾	31½	32¾	International Petroleum	14,247,088	N.P.	56cSA†‡	12-1-34	23½	8⅞	12¼	8	15½	7⅜
4⅜	2⅛	7,200	4⅜	4⅛	4¼	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	2¼	1/16	2½	½	2	½
6	3½	1,100	6	5¾	5¾	Lion Oil Refining	270,000	N.P.	....	10-27-30	9½	1¼	3½	⅞	6¾	1½
8¾	4¼	1,400	5⅜	5	5⅜	Lone Star Gas	5,382,723	N.P.	16cQ§	3-31-34	11⅞	4⅜	11	3⅜	29	5½
5½	4	400	4½	4⅜	4½	Mountain Producers	1,682,182	$10	15cQ	10-1-34	6½	2½	4⅜	2⅛	5⅞	2
18⅛	13¼	100	13⅞	13⅞	13⅞	National Fuel Gas	3,810.183	N.P.	25cQ	10-15-34	20	10	14⅝	8	26½	9⅝
9½	7	200	7⅞	7⅞	7⅞	National Transit	509,000	$12.50	35cSA	12-15-34	10	5½	10½	6	17½	5
2½	1¾	100	2	2	2	New Bradford Oil	1,445,202	$5	10c	9-15-34	2⅛	½	⅞	¼	1½	½
2¾	1	No sales	..	..	..	New Mexico and Arizona	1,000,000	$1	....	.....	1⅞	½	1¼	⅜	3	¾
4¾	3	No sales	..	..	..	New York Transit	100,000	$5	15cSA	10-15-34	4⅞	3	9¾	7½	14½	5⅞
7	4⅝	No sales	..	..	..	Northern Pipe Line	120,000	$10	25cSA	1-2-35	6½	4¼	5½	3⅛	35½	20
2⅝	⅞	3,300	1⅝	1⅜	1⅝	Pantapec Oil	1,608,700	N.P.	....	.....	3¾	1/16	⅞	1/16	2	⅜
3⅜	⅞	200	1¼	1¼	1¼	Ryan Consolidated	296,931	N.P.	....	.....	4¼	⅜	2⅛	⅜	3	¾
7⅞	5½	1,000	6½	6⅜	6½	Salt Creek Producers	1,496,859	$10	20cQ	11-1-34	9¼	3½	5½	2⅞	7⅝	2⅜
26½	17½	1,300	22¾	22⅛	22⅝	South Penn Oil	1,200,000	$25	30cQ	9-29-34	22⅛	11	16½	9⅝	23⅞	9¼
5¼	3⅝	No sales	..	..	..	Southern Pipe Line	100,000	$10	15cSA	9-1-34	6	2⅛	10	3⅜	17	7
47	41	No sales	..	..	..	Southwest Penna. Pipe Lines	35.000	$50	$1Q	10-1-34	43	24½	37	27	42½	25
17⅝	14⅝	9,200	17¾	17⅛	17½	Standard Oil of Kentucky	2,603,983	$10	25cQ†	12-15-34	19¼	8⅜	15⅞	8⅞	23⅝	12⅛
16⅞	8½	400	8¾	8½	8¾	Standard Oil of Nebraska	190,822	$25	....	6-20-34	20½	11	19	10¼	36½	16
28½	12¼	1,300	12¾	12½	12¾	Standard Oil of Ohio	1,610,810	$25	....	1-3-33	41	15½	30⅛	15½	62½	23
2	1/16	5,600	1⅛	1	1⅛	Sunray Oil	1,162,840	$1	....	4-15-31	1½	¼	⅝	⅛	5¼	¼
11	4⅜	1,000	6½	6⅛	6⅛	Texon Oil & Land	936,028	N.P.	15cQ†	9-29-34	13¾	6¼	10½	4½	12⅞	2½

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Deep Test for Gas in Potter County, Pa., Is Dry and Abandoned at 5,648 Feet

COUDERSPORT, Pa., Nov. 26.—Hanley & Bird's No. 2 S. Gooch, Allegany Township, Potter County, was completed dry and abandoned at 5,648 feet after 10 bbls. of salt water were bailed from the hole, marking the principal development in the past week in the north central Pennsylvania and New York gas field operations. Stocum Shoop and others, on the J. W. Wells farm, same township and county, are cementing casing at 5,213 feet. This well gauged at 4,000,000 feet, drilled on the Hebron anticline, is between the Hebron Field and the new Genesee Field and is expected to stimulate activity.

Blow Out Tools

Tioga Natural Gas Co.'s hoodoo well, No. 1 Emporium Bank, Shippen Township, Cameron County, provided the week's principal excitement when an immense gas pocket was struck unexpectedly at 4,715 feet, considerably above the Oriskany. The tools were blown up in the hole springing the casing and breaking the beam. Drilling had been renewed recently after a six-month shutdown. The gas pocket was lost but may be found again when fishing is completed and the casing cemented.

Clarion County

Shorts Brothers on the Wilson farm, Highland Township, Clarion County, Pennsylvania, got 100,000 feet in the Speechley at a depth of 2,130 feet, and Alum Rock Gas Co. tested 56,000 feet at a depth of 2,195 feet at its Glass farm well, Perry Township, same county. In Farmington Township, same county, Gilford Brothers found gas but did not test at 2,177 feet and are drilling through the Second Bradford sand at 2,185 feet at their No. 1 Shaming. Fryburg Motor Co. is down 1,731 feet in its McClosky well, same township.

Tioga County

East Penn Development Co. is drilling at 3,670 feet on the Presbyterian Church property, Farmington Township, Tioga County. Same company is down 4,008 feet on the Roscoe Kemp farm, same township and county. E. Cabot is drilling at 3,765 feet on the W. F. Burroughs farm, Gaines Township, same county.

Potter County

Cunningham Natural Gas Co. is shut down at 4,507 feet on the George Carroll farm, Oswayo Township, Potter County. P.P.&L. is drilling at 5,411 feet on its No. 1 Clair Doty, Hector Township, same county. Same company is drilling at 4,510 feet on its Chloe Kenyon, Hebron Township, same county. Electro Geometer is drilling at 4,895 feet on its No. 1 Katherine Currier, Allegany Township, same county.

Hebron Field

Penn United is drilling at 4,810 feet on the Burt & Lyman property, Hebron Township, Potter County. Lycoming is drilling at 2,495 feet on No. 1 W. B. Hemphill; at 3,580 feet on the W. White farm; at 4,706 feet on the O. W. Greenman farm, and at 4,890 feet on the R. & G. Carmer farm, all in Hebron Township. Potter Development is still idle at its No. 2 Penn Stave location, and is fishing at 3,810 feet on No. 1 B. L. Langworthy, same township and county. Sylvania is drilling at 3,025 feet on No. 2 John Higley, same township.

Bayliss is drilling at 3,483 feet on the Earl Pye property, Genesee Township, Potter County. United Producers is digging a cellar for its No. 1 J. Ruppert, Hebron Township, same county. Tioga Natural Gas is still shut down at its No. 2 Emporium Bank, Shippen Township, Cameron County, at a depth of 4,470 feet. J. B. Reed is digging cellar for a test on the George C. Page farm, Allegany Township, same county.

New York State

Empire Fuel & Gas Co. is down 3,101 feet on the Dean estate property, Alma Township, Allegany County. Higgins and others are drilling at 1,240 feet on the Steadman farm, Allen Township, same county. Farnman and others are drilling at 385 feet on the Murray estate, Belfast Township, same county. Tri-State Gas is drilling at 2,575 feet on the N. D. White farm, Bath Township, Steuben County. Belmont Quadrangle Development Co. is drilling at 625 feet on the T. H. Wing farm, Greenwood Township, same county. Finance Oil & Gas Co. is drilling at 150 feet on the John Inman farm, Persia Township, Cattaraugus County. Harry Erwin is moving in on the Ed Fisk farm, Thurston Township, Steuben County, and A. B. Button is drilling at 810 feet on the Earl Dadson farm, Junius Township, Seneca County.

Administrator's Report on Crude Oil Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ended November 17 totaled 327,676,000 bbls., a decrease of 1,396,000 bbls. from the total of 329,072,000 bbls. on hand at the end of the preceding week, Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry, announced today. This decrease, which followed a decline of 2,804,000 bbls. during the previous week, comprised a decrease of 1,513,000 bbls. in stocks of domestic and an increase of 117,000 bbls. in stocks of foreign crude.

According to current reports of the industry, continued gains were made in both crude oil production and consumption. Daily average crude oil production amounted to about 2,445,000 bbls., or about 30,000 bbls. over the average of the previous week. Crude runs to stills showed a larger increase, the daily average being about 2,570,000 bbls., compared with 2,435,000 bbls. the previous week. Daily average imports were 92,000 bbls., a gain of 22,000 bbls. over the previous week. Approximate daily average balance of crude oil in the week ended November 17 was as follows (barrels): Production, 2,445,000; imports, 92,000; decrease in stocks, 199,000, equals runs to stills, 2,570,000; exports, fuel and losses, 166,000.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

Grade of crude oil—	Stocks held by reporting companies Nov. 10 (bbls.)	Nov. 17 (bbls.)
Pennsylvania Grade	4,628,000	4,661,000
Other Appalachian	1,099,000	1,124,000
Lima-N.E. Indiana-Michigan	1,335,000	1,278,000
Illinois-S.W. Indiana	11,401,000	11,339,000
N. Louisiana and Arkansas	10,001,000	9,830,000
West Texas and S.E. New Mexico	29,704,000	29,985,000
East Texas	31,675,000	30,355,000
Other Mid-Continent	155,898,000	155,541,000
Gulf Coast	18,433,000	18,847,000
Rocky Mountain	27,679,000	27,637,000
California	34,252,000	33,996,000
Total dom. crude	326,106,000	324,593,000
Foreign crude	2,966,000	3,083,000
Total crude	329,072,000	327,676,000

Kansas Wildcats

(Continued from Page 55)

Eldorado Ref. Co.'s No. 1 Stratman, SW SE SE Sec. 32-14-11w.
H.F.W. 3,245 ft.; T.D. 3,250 ft.; abd.
Darby Pet. Co.'s No. 1 Jarus, NW SW NE Sec. 16-16-12w.
Set 13-in. csg. 803 ft.; drlg. 1,570 ft.
Hartman & Blair's No. 1 Gurney, SE SE NW Sec. 32-14-14w.
Bldg. rig.
Lario O. & G. Co. et al's No. 1 Nuss, NW SW SW Sec. 11-16-14w.
Location.
Lario O. & G. Co. et al's No. 1 Moore, 760 ft. S and 660 ft. E, NW cor. Sec. 34-13-12w.
Location.
Tom Palmer et al's No. 1 Herbel, NW SW Sec. 4-13-11w.
Drlg. 2,945 ft.

SALINE COUNTY

J. Brouk and R. D. Bailey's No. 1 Kluesner, NW NW SE Sec. 34-15-2w.
Location.
Dieter et al's No. 1 Herrington, NE NW SE Sec. 3-13-1w.
S.D. 1,785 ft.

SCOTT COUNTY

Atlantic Oil Prod. Co.'s No. 1 Vaniman, C SE NE Sec. 15-20-33w.
T.D. 4,565 ft.; fishing.

SEDGWICK COUNTY

Aladdin Pet. Co. et al's No. 1 D. Lauck, SE NE NW Sec. 21-28-2.
Rig.
Allison & Fitzwilliams et al's No. 1 Struthers, NE SW Sec. 34-28-3w.
H.F.W. 2,745-65 ft.; drlg. 2,895 ft.
Cameron, Derby Oil Co. and Trees' No. 1 Brainard, SW SE NW Sec. 19-24-2.
Moving in material.
Leo Keller et al's No. 1 Russell, SW SW NW Sec. 16-29-2.
Cellar.
D. R. Lauck et al's No. 1 Roy, SE SW Sec. 20-29-1w.
Set 6-in. csg. 3,435 ft.; drlg. 3,676 ft.
Syndicate O. & G. Co. et al's No. 1 Ratzlaff, NE NW NW Sec. 30-26-2.
Set 8-in. csg. 2,700 ft.; T.D. 2,830 ft.

STAFFORD COUNTY

Atlantic Oil Prod. Co. and Phillips Pet. Co.'s No. 1 Guthrie, C NW NW Sec. 15-25-11w.
Set 20-in. pipe at 215 ft.

SUMNER COUNTY

T. Palmer's No. 1 Wentworth, NW NW NE Sec. 9-35-2.
Rig.
Wents et al's No. 1 Horsley, CSL SW SW SW Sec. 18-35-1.
Wilcox sand 3,894-97 ft.; 2,000 ft. wtr. in hole; abd.

TREGO COUNTY

Marathon Oil Co.'s No. 1 Kline, SW SE Sec. 19-14-24w.
Set 6-in. 4,602 ft.; T.D. 4,615 ft.; C.O.

WASHINGTON COUNTY

Rose Oil Co. et al's No. 1 Penwell, NE NW SE NE Sec. 16-3-3 (O.W.D.D.).
Old T.D. 1,720 ft.; R.U. and S.D.

Gulf Coast Wildcats

(Continued from Page 50)

Yount Lee Oil Co.'s No. 27 Chambers Co., 400 ft. W of No. 24 and in line with Nos. 24 and 21.
Derrick.
Yount Lee Oil Co.'s No. 28 Chambers County, 50 ft. N S line, direct offset to Sun's No. 10 Chambers County, Wm. Bloodgood Sur.
Derrick.

BOLING—FORT BEND COUNTY

Allied Minerals, Inc.'s No. 1 J. H. Blackwell, 1,400 ft. from E line, 100 ft. from S line of 50-ac. of J. H. Blackwell 100 ac., John Huff Sur.
Cored S.W. sand 3,623 ft.
Midland Oil Co.'s No. 1 P. F. Coulter, 150 ft. from S line, 4,174 ft. from W line of 100-ac. tract, Miller League No. 2.
D.S. stuck; T.D. 4,168 ft.
Allied Minerals, Inc.'s No. 1 E. C. Farmer, James Scott League, 750 ft. SE of NW line and 150 ft. SW of NE line of Gulf Prod. Co.'s E. C. Farmer 50-ac. tract.
Coring sand 4,203 ft.
Irwin Larsen et al's No. 1 J. R. Farmer, 100 ft. NW and 100 ft. SW from E cor. of 125-acre lease, James Scott Sur.
Location.

THOMPSON—FORT BEND COUNTY

Gulf Prod. Co.'s No. 9 Gubels, 450 ft. N, 475 ft. W of SE cor. of lease, Samuel Kennedy League.
T.D. 5,345 ft.; I.P. 1,488 bbls. per day.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 41 Moore, 3,373 ft. S along W line from NW cor. of James Frazier Sur., and 3,154 ft. at R/A.
Drlg. sandy shale 4,329 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 43 Cade, N. Fitzsimmons Sur., half way between Nos. 26 and 28 and 150 ft. E at right angles.
Drlg. shale 5,242 ft.
Yount Lee Oil Co.'s No. 22 Smith.
Comp.; T.D. 5,039 ft.; I.P. 125 bbls.; 5/32-in. choke.

ARRIOLA—HARDIN COUNTY

Houston Oil Co.'s No. 4-X Arriola fee, 400 ft. E of No. 3-X.
Reaming 4,745 ft.

BATSON—HARDIN COUNTY

J. H. Burt et al's No. 1 Jordan, 300 ft. E and 100 ft. S of No. 1, Mary Hooks Sur.
Location.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 9 R. Jordit, 200 ft. due south of No. 5 R. J.
Drlg. gumbo 1,944 ft.
Haines Bros.' No. 1 Coswell.
Swabbing; T.D. 3,322 ft.

SOUR LAKE—HARDIN COUNTY

Alpha Pet. Co.'s No. 3 Wm. Weiss, 100 ft. W of No. 2.
Location.
Alpha Pet. Co.'s No. 2 Weiss, E flank of dome.
T.D. 5,644 ft.; D.S. stuck.
Sun Oil Co.'s No. 3 Bernard Corp., 150 ft. from N and W lines of Lot 11, H.T.&B. Sur., Sec. 69.
T.D. 7,130 ft.; sidetracked at 6,796 ft.; drlg. shale 6,868 ft.
Texas Co.'s No. 313 fee, 150 ft. S and 250 ft. E of No. 308 fee.
T.D. 1,939 ft.; I.P. 50 bbls. per day on pump.
Texas Co.'s No. 314 fee, 200 ft. E at R/A to mid-point between wells Nos. 311 and 312.
Set 9⅝-in. csg. at 600 ft.; W.O.C.

GOOSE CREEK—HARRIS COUNTY

Gerring's No. 1 Williams, 180 ft. from SE cor. and 55 ft. NE of Hybush's No. 3, in W. Scott upper league.
Cellar.
Humble O. & R. Co.'s No. 80 Simms-Smith, Scott Lower League, 1,000 ft. E of the most westerly W line, and 300 ft. N of the most northerly S line.
Reaming to bottom 6,735 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 10 H. C. Cain, 399 ft. S and 290 ft. E of NW cor. of lease and 217 ft. N of No. 9, J. Hamilton Sur No. 879 (workover).
Drlg. sand 4,086 ft.
Rio Bravo Oil Co.'s No. 27-A Settegast, 377 ft. S, 553 ft. W of NE cor. of Settegast "A" tract, James Hamilton Sur.
Drlg. shale and lime 2,587 ft.
Rio Bravo Oil Corp.'s No. 9-A Settegast, 1,575 ft. N line, 350 ft. E line NE cor. "A" lease, J. A. Kopman Sur.
Coring sand 4,614 ft.

MYKAWA—HARRIS COUNTY

West Prod. Co.'s No. 1 Diamond, Blk. 12, F. J. Rothaas Sur.
Fishing; T.D. 3,600 ft.
Danciger O. & R. Co.'s No. 1 Williams, SW cor. of 29-ac. lease.
Drlg. shale 2,000 ft.
West Prod. Co.'s No. 1 Lobit, C of Lot 17, Erin Gardens Subd., F. J. Rothaas Sur.
Coring shale 6,169 ft.

TOMBALL—HARRIS COUNTY

Amerada Pet. Corp.'s No. 2 Fitz-Rudel, 456 ft. from E line, 500 ft. from S line of 80-ac. lease, Joseph House Sur.
T.D. 5,585 ft.; I.P. 172 bbls.; 11 hrs.; tubing pressure 1,675 lbs.; csg. pressure 1,750 lbs.
Humble O. & R. Co.'s No. 1 Gossett, Coring shale 5,542 ft.
Humble Oil & Ref. Co.'s No. 5-B Hope, 1,980 ft. from S line and 466 ft. from W line of "B" lease, A. Senchall Sur., Abst. 732.
Location.
Humble O. & R. Co.'s No. 3 Kuehn.
10¾-in. csg. 961 ft.; T.D. 1,419 ft.
Humble O. & R. Co.'s No. 5 Reid.
10¾-in. csg. 5,544 ft.; T.D. 5,553 ft.
Humble O. & R. Co.'s No. 1 Tallman.
Drlg. boulders 1,887 ft.
Humble O. & R. Co.'s No. 1 Martens.
Comp. 5,584 ft.; I.P. 4 bbls. per hr.; tubing pressure 1,800 lbs.
Humble O. & R. Co.'s No. 2-C Quilter.
Comp.; T.D. 5,584 ft.; I.P. 24 bbls. per hr.; ¾-in. choke.
Humble O. & R. Co.'s No. 5 B. Quilter, 466 ft. E of W line, A. Seuchel Sur.
Drlg. shale and boulders 529 ft.
Humble O. & R. Co.'s No. 2 Rudel, 2,498 ft. N of S line, 737 ft. W of E line and 737.6 ft. E of W line, James House Sur.
Location.
Texas Co.'s No. 2 Albert Ziegler, 466 ft. E and 466 ft. N of SW cor. of lease, Wm. Hurd Sur.
Washing in at 5,584 ft.; set 7-in. csg. at 5,574 ft.

KITTRELL-HOUSTON AND WALKER COUNTIES

Crown Central Pet. Corp.'s No. 1 Texas Long Leaf Lbr. Co. and Thompson Bros., 150 ft. from W line, 150 ft. from N line of 40-ac. tract in J. S. Estheridge Sur., Abst. 399.
Location.
Humble O. & R. Co.'s No. 2 Shaw, 330 ft. from SE line of lease and 660 ft. SW of No. 1 Charles McEllis Sur.
T.D. 2,000 ft.; set 7-in. csg. at 1,970 ft.; preparing to run 2½-in. tubing and make test.
Humble O. & R. Co.'s No. 1 Texas Long Leaf Lbr. Co., 330 ft. from SW line and 330 ft. from SE line of Texas Long Leaf Lbr. Co., 696-ac. tract, C. C. McEllis Sur.
Fishing 3,870 ft.
Humble O. & R. Co.'s No. 2 Texas Long Leaf Lbr. Co., 330 ft. SW of NE line, 660 ft. SE of No. 3, Chas. McEllis Sur., Abst. 382.
Location.
Humble O. & R. Co.'s No. 3 Texas Long Leaf Lbr. Co., 130 ft. SE of NW line, 330 ft. SW of NE line, and 660 ft. NW of No. 2, Chas. McEllis Sur.
Location.
Trinity Dev. Co.'s No. 1 G. A. Knox, 1,000 ft. from SE line and 500 ft. from SW line of Wm. Prissick Sur.
Abd. 2,500 ft.

VANDERBILT—JACKSON COUNTY

Imperator Oil Co.'s No. 1 Dutton, S C of Lot No. 11, Blk. 25, 450 ft. S of R.R. and 1,350 ft. W line of townsite, Ray Musquis Sur.
Rigged up and S.D.
Turman Oil Co.'s No. 1 T. H. Miller, 150 ft. each way out of E 50-ac. of Miller 100-ac. tract in Ray Musquis Sur.
Rig up.

BIG HILL—JEFFERSON COUNTY

Yount-Lee Oil Co.'s No. 1-A Pipkin, 2,640 ft. S and 2,050 ft. W of NE cor. of survey.
Drlg. shale 2,763 ft.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 15 Thomas, 200 ft. W of Gulf's No. 7 Burrell.
Drlg. sand rock 2,652 ft.

CLEVELAND—LIBERTY COUNTY

Gulf Prod. Co.'s No. 7 Kirby, 1,100 ft. N of No. 6-C Kirby.
Drlg. shale 4,450 ft.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 14 Moores Bluff, 1,675 ft. S, 10 deg. 8 min. E of No. 10.
Drlg. sandy shale 4,383 ft.
General Crude Oil Co.'s No. 9 Davis, 1,300

ft. each way from S and E lines of lease in D. Kokernut Sur.
W.O.C. 5,642 ft.
General Crude Oil Co.'s No. 1 W. D. Kay, Malcom Duncan Sur., 1,537 ft. along N line from NE cor., 560 ft. S at R/A.
Drlg. shale and lime 3,981 ft.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 3 Crow & Jacobs, 300 ft. each way out of SW cor. of survey. H.&T.C. Sur., A 353.
Drlg. shale and lime 4,218 ft.

HULL—LIBERTY COUNTY

Gulf Prod. Co.'s No. 74 Phoenix (W.O.). Abd. 5,253 ft.
Gulf Prod. Co.'s No. 12 W. L. Thomas, 1,-650 ft. N and 150 ft. E of SE cor. of 300-ac. tract, Jessie Devore Sur.
Drlg. sticky shale 5,380 ft.
G. R. Brown and S. F. Bashara's No. 1 David Hannah, Jesse Devore league, 100 ft. S line, 150 ft. E line, 42-ac. Gulf tract. Derrick.

BUCKEYE—MATAGORDA COUNTY

United North & South Dev. Co.'s No. 1 Unit 4, Buckeye farm, J. C. Keller league, 214 ft. N line and 202 ft. E line of lease. Cutting and pulling screen; T.D. 7,881 ft.

MARKHAM—MATAGORDA COUNTY

Hawkins Oil Co.'s No. 1 Hawks fee, 1,850 ft. from N line and 1,650 ft. from E line of 20-ac. lease.
T.D. 600 ft.; derrick down.
Powers Prod. Co.'s No. 4 Myers, in line with wells Nos. 1 and 2, being 250 ft. E of No. 2.
Derrick down.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 3 Falvez, 466 ft. from N line and offsets to Sun Oil Co.'s No. 20 Keystone Mills.
Drlg. 700 ft.
Houston Oil Co.'s No. 11 Cartwright, N offset to No. 10 Cartwright.
Location.
Texas Co.'s No. 13 W. S. Rhodes.
Cut and pull screen 5,107 ft.

SPLENDORA—MONTGOMERY COUNTY

Bryce McCandless et al's No. 1 Texas Long Leaf Lbr. Co., 330 ft. from N and E lines of the W½ of Blk. No. 8, Walker County School Land Sur.
Rig up.

ORANGE—ORANGE COUNTY

Trio Oil Co.'s No. 1 D. S. Comier, 69 ft. W of E line and 39 ft. S of N line of 6.83-ac. tract in W. M. Dyson Sur.
Prepare to spud.

PORT NECHES—ORANGE COUNTY

Port Neches Pet. Corp. et al's No. 1 W. B. Organ, 450 ft. from NE line and 150 ft. from NW line of A. Schramm Sur., S of Port Neches Field.
Location.
Texas Co.'s No. 3-B Polk, 200 ft. S, 450 ft. W of SE cor. of Mary E. Hall Sur. No. 3. Bldg. rig foundation.
Texas Co.'s No. 10 Kuhn, 200 ft. N, 450 ft. W of SE cor. of Mary E. Hall Sur. No. 3. Derrick blown down.
Texas Co.'s No. 6 Kuhn, 150 ft. E, 150 ft. N of SE cor. of Mary Hall Sur.
Preparing to core 5,479 ft.

LIVINGSTON—POLK COUNTY

T. D. Humphries' No. 1 J. C. Whitforth, Block H.
Derrick.
B. M. York et al's No. 1 Kingsbury County Holding Corp., 463 ft. from E and W lines, and 330 ft. from S line of Tract No. 19, A. Viesca Sur.
Pits; cmtd. surface csg.

GRETA—REFUGIO COUNTY

Atlantic and Stanolind's No. 7-G O'Brien.
Derrick.
Hewitt & Daugherty's No. 12 Lambert.
Rig up.
United Prod. Co.'s No. 10 Fannie Heard, SE cor. of lease; workover.
T.D. 3,565 ft.; jetted well and had S.W.; P.B. from 3,578-3,417 ft.; W.O.C.
United Prod. Co.'s No. 13 M. F. Lambert C of N½ of Blk. 15 of the M. F. Lambert Subd.
Sand 3,500 ft.; reamed to bottom and preparing to set csg.
United Prod. Co.'s No. 14 M. F. Lambert, C of S½ of Blk. 6, of M. F. Lambert Subd.
Circulating shale 3,489 ft.
United Prod. Co.'s No. 15 M. F. Lambert C of S½ of Blk. 15 of M. F. Lambert Subd.
Drlg. shale 3,488 ft.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 1 Johnson, center of Blk. 63; (workover).
S.D. 5,140 ft.; preparing to pull tubing.
Houston Oil Co.'s No. 17 W. J. J. Heard, 660 ft. SE of No. 16 W. J. J. Heard.
Set screen and liner; prep. to wash 2,-940 ft.
Houston Oil Co.'s No. 17 Rooke, 600 ft. SW of No. 16 Rooke.
T.D. 4,924 ft.; I.P. 225 bbls. per day on ¼-in. choke.
Houston Oil Co.'s No. 18 W. J. J. Heard, S offset to United Prod. Co.'s well on N side of river.
Location.
Houston Oil Co.'s No. 17 Rooke (200-ac. tract), S offset to No. 17 P. H. Rooke.
Derrick and pits.
United Prod. Co.'s No. 9 Wilson Heard, 2,-414 ft. SE along NE property line of Wilson Heard 250-ac. tract, thence at R/A 330 ft. to point of location.
Bldg. derrick.

COLETO CREEK—VICTORIA COUNTY

Rupert Cox's No. 1 Antone Trybil, R. Manchola Sur.
Derrick.
Houston Oil Co.'s (John F. Camp) No. 1 Maurer, 330 ft. out of NE cor. of Maurer 195 acres in R. Manchola Sur. (W.O.).
T.D. 2,198 ft.; D.S. test from 2,194-98 ft. showed gas; running 7-in. csg. at 2,184 ft.
Albert Plummer's No. 1 Zimmer, 330 ft. S and SE lines of lease in Manchola Sur No report.

McFADDIN-O'CONNOR DISTRICTS—VICTORIA AND REFUGIO COUNTIES

Humble O. & R. Co.'s No. 17 O'Connor, 923 ft. SW of No. 15, Keating Sur.
To make electrical coring test 4,493 ft.
Texas Co.'s No. 3 McFaddin, 9,150 ft. S and 300 ft. at R/A out of NW cor. of C. M. B. Hoyt Sur.
T.D. 6,230 ft.; I.P. 11 bbls. per hr. on ¾-in. choke; tubing pressure 1,600 lbs.; csg. pressure 1,800 lbs.
Texas Co.'s No. 9 McFaddin.
Location.

SAN FELIPE—WALLER COUNTY

Seaport Oil Co.'s No. 1 J. W. Avery, 330 ft. from E line, 330 ft. from N line of NE cor. of 29-ac. tract, John McFarland Sur.
Coring sandy shale 2,852 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 3 R. L. Landry.
T.D. 1,232 ft.; I.P. 50 bbls. per hr. on pump.

LOUISE—WHARTON COUNTY

Pure Oil Co.'s No. 1 John Macha, 318 ft. from NW line and from SE line of F. Walnut Sur., and 467 ft. from NE line of 101.53-ac. lease, M.&C. Sur. No. 25.
Location.
Pure Oil Co.'s No. 1 G. F. Wharton Est., 1,497 ft. from SW line and 318 ft. from SE line of F. Walnut Sur., Abst. A-35.
Location.
Pure Oil Co.'s No. 2 Garrett, 990 ft. from NW and 330 ft. from NE of S cor. Sec. 28, T. W. Heard Sur.
T.D. 5,150 ft.; I.P. 65 bbls. per day on ¼-in. choke; tubing pressure 750 lbs.; csg. pressure 220 lbs.
Pure Oil Co.'s No. 3 Stewart, Morris & Cummings Sur., Sec. 25, 990 ft. out of SW cor. of 160 acres.
T.D. 8,271 ft.; set 7-in. csg. at 8,058 ft.

SOUTH LOUISIANA FIELDS
BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 3 State.
Reaming to bottom; T.D. 6,664 ft.
Shell Pet. Corp.'s No. 20 Watkins, 1,611 ft. S and 216 ft. W of NE cor. Sec. 18-2s-12w.
Bldg. new derrick; T.D. 4,024 ft.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Superior Oil Prod. Co.'s No. 3 Comeaux, 1,-324 ft. E of NW cor. NE Sec. 34.
Derrick.
Superior Oil Prod. Co.'s No. 2 Arceneaux, 1,963 ft. S and 1,708 ft. W of NE cor. of Sec. 33-8s-3e.
Drlg. sand and shale 3,343 ft.
Superior Oil Prod. Co.'s No. 1 Herbert, 2,-095 ft. S and 2,058 ft. E of NW cor. Sec. 35-8s-3e.
Drlg. sandy shale 6,824 ft.
Superior Oil Prod. Co.'s No. 5 Larcade, 1,-665 ft. S and 483 ft. E of NW cor. Sec. 35-8s-3e.
Derrick.
Superior Oil Prod. Co.'s No. 2 Comeaux, 1,-876 ft. S and 467 ft. W of NE cor. Sec 34-8s-3e.
T.D. 8,901 ft.; tested S.W.; prepare to drill ahead.
Superior Oil Prod. Co.'s No. 1 B. Iseringhauser, 330 ft. S and 2,546 ft. W of SE cor. Sec. 27-8s-3e.
Derrick.
Superior Oil Prod. Co.'s No. 3 Iseringhauser, 1,817 ft. E, 330 ft. N of SW cor. Sec. 27.
Drlg. shale and shells 5,255 ft.
Superior Oil Prod. Co.'s No. 1 Malancon, 375 ft. S and 62 ft. E of NW cor. SW Sec. 34-8s-3e.
Coring sand 9,399 ft.
Superior Oil Co.'s No. 3 Larcade, 503 ft. N and 1,197 ft. E, SW cor. Sec. 26-8s-3e.
Cmtd. liner bottomed at 8,674 ft. to csg.; T.D. 8,692 ft.
Superior Oil Co.'s No. 4 Larcade, 658 ft. S and 2,293 ft. E from NW cor. of Sec. 35-8s-3e.
Reaming to bottom 7,850 ft.
Superior Oil Prod. Co.'s No. 1 Prejan, 324 ft. N, 330 ft. E of SW cor. NE Sec. 34.
Derrick.
Superior Oil Prod. Cor.'s No. 1 Lucien Lavergne, 596 ft. E and 330 ft. N of SW cor. of Sec. 27-8s-3e.
P.B. to 6,430 ft.; drlg. 7,666 ft.
Superior Oil Prod. Co.'s No. 1 Moise Lavergne, 269.7 ft. W and 98 ft. N. of SE cor. of Sec. 28-8s-3e.
Derrick.
Superior Oil Prod. Co.'s No. 1 Trahan, 1,-892 ft. N, 543 ft. W of SE cor. Sec. 27.
T.D. 8,113 ft.; P.B. to 7,887 ft.
Superior Oil Prod. Co.'s No. 3 Hermandes, 329 ft. from S line, 669 ft. W of NE cor. NW Sec. 34-8s-3e.
9⅝-in. csg. 7,836 ft.; drlg. plug 7,851 ft.

CAMERON MEADOWS—CAMERON PAR.

Burton-Sutton's No. 1 School Land.
Drlg. shale 4,359 ft.
Burton-Sutton Oil Co.'s No. 4 School Land 1,891 ft. W and 150 N of SE cor. of Sec 16-4s-13w.
Derrick.
Humble O. & R. Co.'s No. 9 Cameron Meadows, 2,266 ft. N and 526 ft. S of NE cor. Sec. 31-14s-13w.
Location.
Texas Co.'s No. 1 Miami Corp.
Drlg. lime 7,763 ft.

STARKS—CALCASIEU PARISH

Gulf Prod. Co.'s No. 36 Lutcher-Moore, 1,-466 ft. S and 1,816 ft. E of NW cor. Sec. 19-9s-12w.
Abd. 4,091 ft.

DOG LAKE—TERREBONNE PARISH

Texas Co.'s No. 11 State, 150 ft. N and 2,474 ft. W, SE cor. Sec. 31-21s-16e.
Building derrick.
Texas Co.'s No. 15 State, 2,602 ft. N and 1,308 ft. W, SE cor. Sec. 31-21s-16e.
Drlg. shale 4,715 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6, Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w.
Fishing 9,379 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 3 H. C. Hanzen, 150 ft. S and 150 ft. E of NW cor. of lease, Sec. 13-12s-10w.
Location.
Gulf Prod. Co.'s No. 16 Irwin, 770 ft. from N line, 800 ft. from W line, SE cor. Sec. 12-12w-10s.
Drlg. shale and lime 4,914 ft.
Texas Co.'s No. 13-B State, 400 ft. N of NE cor. of lease, Sec. 13-12s-10w.
Drlg. wtr. sand 4,992 ft.
Calcasieu Oil Co.'s No. 39 Watkins, 807 ft. W, 1,184 ft. N of SE cor. Sec. 13-12s-10w (workover).
Drlg. shale 2,689 ft. (corrected).
Texas Co.'s No. 14 State, 600 ft. SE of No. 12, Sec. 13-12s-10w.
Location.
Union Sulphur Co.'s No 1 Barbee est., 1,720 ft. N line, 320 ft. E of SW cor. Sec. 13-12s-10w.
T.D. 6,491 ft.; D.S. stuck.
Union Sulphur Co.'s No. 4 Humble, 710 ft. N and 330 ft. W of SE cor. Sec. 11-12s-10w.
Drlg. shale and lime 5,363 ft.
Yount Yee Oil Co.'s No. 1-A Gulf Land, 2,000 ft. S and 50 ft. E of the NW cor. of Sec. 32-12-10.
Rig up.
Yount Lee Oil Co.'s No. 4 Carter, 160 ft. S, 305 ft. W of NE cor. of 30-ac. lease. Sec. 22-12s-10w.
Drlg. sand, shale and shells 2,323 ft.
Yount Lee Oil Co.'s No. 2-A Gulf Land. 1,100 ft. S and 50 ft. E of the NW cor. of Sec. 31-12-10.
Rig up.

NEW IBERIA—IBERIA PARISH

L. Delcambre's No. 1 Viatar, 150 ft. E, 150 ft. S and 150 ft. W of SE cor. of tract, Sec. 41-12s-5e.
S.D. 245 ft.
Harrison & Abercrombie's No. 2 Schwing, beginning at E cor. of Sec. 24-12s-8w, thence southwesterly along section line 3,054 ft., thence NW at R/A 1,121 ft.
Drlg. shale 4,234 ft.
Texas Co.'s No. 1 Hanzen, NE along NW line of lease 508 ft., thence 150 ft. E at R/A, Sec. 54-12s-7e.
Moving in rig.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Magnolia Pet. Co.'s No. 4 Willett.
Drlg. sandy shale 330 ft.
Magnolia Pet. Co.'s No. 10 Wait, 330 ft. N and E of SW cor. of lease.
T.D. 6,947 ft.
Shell Pet. Corp.'s No. 1 Amelia Carter, 660 ft. N and 330 ft. W of SE cor. NW Sec. 1-9s-4w.
Rig up.
Shell Pet. Corp.'s No. 12 Hyde, 330 ft. W, 330 ft. S of NE cor. NW Sec. 13-9s-7w.
Drlg. hard sand 2,067 ft.
Shell Pet. Corp.'s No. 11 Hyde, 330 ft. E and S of NW cor. NE Sec. 13-9s-7w.
Drlg. lime and shell 3,573 ft.
Shell Pet. Corp.'s No. 5 Stratford, 1,094 ft. S, 330 ft. E of NW cor. of Sec. 18.
Waiting on cmt. to set 6,973 ft.
Shell Pet. Corp.'s No. 10 Hyde.
Coring sand 6,292 ft.
Shell Pet. Corp.'s No. 3 Tuten, 1,159 ft. W and 330 ft. from S of NE cor. SE Sec. 13-9s-6w.
T.D. 6,649 ft.; prepare to test.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 14 Housierre-Latrielle, 360 ft. N of No. 13, Sec. 47-9s-3w.
Drlg. sand 6,767 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 25 State.
Running csg. 3,821 ft.
Texas Co.'s No. 11 L.L.&E., Sec. 30-21s-20e.
Drlg. hard shale and lime 3,611 ft.
Texas Co.'s No. 12 L.L.&E.
Drlg. sandy lime 4,336 ft.

LAKE HERMITAGE—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 2 LaFourche, Basin Levee Dist.
Drlg. shale 5,706 ft.

LAKE FELTO—TERREBONNE PARISH

Whitstone O. & G. Co.'s No. 1 Buckley, 300 ft. S and E of NW cor. SW SW Sec. 35-19s-16e.
T.D. 3,053 ft.; testing.

LAKE WASHINGTON—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 23 Cockrell-Moran. 650 ft. N and 21 deg. 30 min. E of No. 2 in Twp. 20s-26e.
Drlg. sand 4,045 ft.

LEESVILLE—LAFOURCHE PARISH

Emerald Oil Co.'s No. 1 Bowie Lbr. Co., 4,431 ft. N and 1,632 ft. E of SW cor. Sec. 53-10n-8e.
Moving in rig.
Emerald Pet. Co.'s No. 7 State of Louisiana.
Drlg. shale 3,500 ft.
Gulf Prod. Co.'s No. 2 Allen.
Drlg. gumbo and shale 4,909 ft.
Gulf Prod. Co.'s No. 5 Allen.
Derrick.
Gulf Prod. Co.'s No. 10 Bernard, 1,333 ft. E, 958 ft. S of NW cor. Sec. 26-21s-22e.
Derrick.
Gulf Prod. Co.'s No. 2 Community, 50 ft. W and 1,300 ft. E of NW cor. Sec. 36-21s-22e.
Derrick.
Gulf Prod. Co.'s No. 8 Bernard, 568 ft. E along S line of 5.08-ac. tract from SW cor. and 446 ft. N at right angles, Sec. 26-21s-22e.
Drlg. shale and lime 3,462 ft.
Emerald Pet. Co.'s No. 10 State, west bank, 300 ft. S of well No. 1.
Location.
Emerald Pet. Co.'s No. 11 State, east bank, 327 ft. N of well No. 1.
Location.
Emerald Pet. Co.'s No. 12 State, east bank, 350 ft. S of well No. 1.
Location.
Frank L. Hill's No. 1 Bernard, 1,433 ft. N and 808 ft. E of SW cor. Sec. 26-21s-21e.
S.D. 3,670 ft.
Leesville Oil & Gas Co.'s No. 1 Southern Louisiana Canal Navigation Co., 35 ft. W of Bank of Bayou, 15 ft. N of S bank, Sec. 26-21s-22e.
S.D. 4,189 ft.
Texas Co.'s No. 21 L.L.&E., Sec. 26-21s-22e.
Drlg. sand 4,571 ft.
Texas Co.'s No. 28 L.L.&E.
T.D. 3,916 ft.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 12 Bordages, 966 ft. W and 93 ft. N of SE cor. N½ NE Sec. 8-10s-19w.
Prepare to make D.S. test; T.D. 6,620 ft.
Union Sulphur Co.'s No. 1 Moss (W.O.).
Drlg. sandy shale 4,826 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Prod. Co.'s No. 8 Wilson Cochran, 568 ft. E along S line of L. Bernard 5.08-acre tract from SW cor. of Sur., 466 ft. N at right angles to said line, being 400 ft. N of line drawn through No. 1 and No. 3, Sec. 26-22s-12e.
Drlg. sand 3,186 ft.

ROANOKE—JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 1 Taylor, 440 ft. E and 440 ft. S of NW cor. SW Sec. 12-9s-4w.
Drlg. shale and shells.
Humble O. & R. Co.'s No. 1 R. C. Jarnegan, 440 ft. S, 440 ft. E of the NW cor. SE Sec. 12-9s-4w.
Drlg. shale 3,445 ft.
Humble O. & R. Co.'s No. 3 Devilbiss, 1,-399 ft. W, 466 ft. S of NE cor. Sec. 14-9s-4w.
Coring sand 8,931 ft.
Shell Pet. Corp.'s No. 1 Jarnigan, 330 ft. E, 660 ft. S, NW cor. Sec. 12-9s-4w.
Coring sandy shale 9,192 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 26 United Land.
Drlg. sticky shale 5,736 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 806 fee.
Drlg. plug 2,842 ft.
Union Sulphur Co.'s No. 790 fee, 929 ft. S and 802 ft. W of C Sec. 29-9s-10w.
Drlg. sandy shale 4,879 ft.
Union Sulphur's No. 2 Uldrick, 500 ft. N of No. 1.
Drlg. sandy shale 4,398 ft.
Union Sulphur's No. 803 fee.
9⅝-in. csg. 2,820 ft.; T.D. 2,832 ft.
Union Sulphur Co.'s No. 2 Kelly, 1,345 ft. S, 198 ft. W of the NE cor. of Sec. 30-9s-10w.
Drlg. shale 4,790 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee fee, 800 ft. S of No. 11, in line with Nos. 9 and 10. Sec. 12-13-8w.
S.D. 7,439 ft.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 7 Noble.
T.D. 3,883 ft.; P.B. to 3,730 ft.; washing.
Marrs McLean's No. 15 F. H. Gray, 342 ft. N and 338 ft. E of SW cor. Sec. 33-10s-12w.
Abd. 2,585 ft.
Vinton Oil Co.'s No. 1 J. G. Gray, 230 ft. from N line and 545 ft. from E line of SE NE Sec. 4-11s-12w.
Abd. 2,630 ft.
Wilson Broach's No. 7 Wilson (W.O.), Sec. 33-10s-12w.
Comp.; T.D. 3,582 ft.; I.P. 400 bbls. per day; ⅜-in. choke.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 9 Wilburn, 300 ft. E of No. 7.
T.D. 7,193 ft.; in hard sand.

MISCELLANEOUS WILDCATS
TEXAS
ANGELINA COUNTY

Thayer et al's No. 1 Dearmond, J. T. Peavy Sur., 2½ miles SE of Zavalla.
Hard lime 1,915 ft.; T.D.

AUSTIN COUNTY

Quintana Oil Co.'s No. 1 L. S. Hillboldt, M. N. Allen League.
Location.
J. S. Wheeless et al's No. 1 Lewis Wittenburg, 330 ft. S and 1,100 ft. from W line of 202.5-ac. tract, Sec. 179, H.&T.C. Sur.
Drlg. shale 865 ft.

BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Houston Farm Dev. Co., 1,414 ft. N, 316 ft. W of SE cor. of L. Bachelder Sur.
T.D. 7,666 ft.; W.O.C.
C.&R.G. Drlg. Co.'s No. 1 Frank Truksa, 300 ft. from S and 1,000 ft. from E lines of 75-ac. tract, Sec. 7, H.T.&B.R.R. Sur.
S.D. 7,890 ft.
Holt et al's No. 1 Griffith, J. B. Bailey Sur
T.D. 4,200 ft.; waiting orders.
Stanolind Oil & Gas Co.'s No. 1 J. W. Surface, 466 ft. N and 460 ft. W of most easterly SE cor. of 75.9-acre tract, A.C.H. &B. Sur., Abstr. 462.
Drlg. shale 3,340 ft.
Turnbull & Irwin's No. 1 Sutherland & Buck, 330 ft. from N and S lines and 150 ft. from W line of 40-ac. tract, A. Robinson Sur.
Drlg. shale 5,280 ft.

CALHOUN COUNTY

Continental Oil Co.'s No. 1 American Nat. Realty Co., C of NE of Sec. 6, Blk. C.
T.D. 7,119 ft.; trying to pull 5½-in. csg.
Steen Drlg. Co.'s No. 1 Stansel, 500 ft. along N line from NW cor., thence 350 ft. at R/A of 371.2-ac. tract, A. E. Parza Sur.
T.D. 6,168 ft.; set csg. at 6,120 ft.; prepare to test.

CHAMBERS COUNTY

Humble O. & R. Co.'s No. 1 Middleton, 466 ft. each way out of the SW cor. of survey.
Rigging up.
Sun Oil Co.'s No. 1 Hamilton 1,400 ft. from N line, 1,400 ft. from W line of survey. T.&N.O. Sur., Sec. 128.
Drlg. shale 4,539 ft.

COLORADO COUNTY

Coyle-Concord Oil Co.'s No. 1 Nelson, 2,300 ft. SE of NW cor. of Sec. 2,200 ft. SW at right angles in L.&G.N. Sur.
S.D. 6,194 ft.

FORT BEND COUNTY

Benedum & Trees' No. 1 Jacob Hensler, Charles D. Sayers Sur.
Drlg. shale 3,730 ft.

W. A. Shafer et al's No. 1 V. B. Bortash, 693 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur.
S.D. 2,900 ft.

Vico Oil Co.'s No. 1 H. R. Darst, 5,690 ft. N of S line and 685 ft. W of E line of E. Powell Sur.
Drlg. shale 5,216 ft.

GALVESTON COUNTY

Gillock Pet. Co.'s No. 2 Maco Stewart, 900 ft. N and 150 ft. W of No. 1, Alex Farmer Sur.
T.D. 1,500 ft.; waiting on surface pipe
S.D.

H. E. Sedberry, trustee's No. 1 Thomas Shaw (200 acres), 150 ft. NW line, 165 ft. NE line, Lot 66, Sec. 7, Hall & Jones Galveston Island.
S.D. 53 ft.

Humble O. & R. Co.'s No. 1-B Stewart, 415 ft. S of Dickinson Bayou, 460 ft. E of E line of Blk. 16, Beatty Subd., John Sellers Sur.
Washing well 8,024 ft.

Pure Oil Co.'s No. 1 J. W. Shelor (231.2 acres), 2,750 ft. S of Dickinson-San Leon highway and midway E and W lines of lease, B.B.B.&C. Sur.
T.D. 7,986 ft.; sand and shale; to make
T.D. 8,016 ft.; cmtd. 7-in. csg. at 7,929 ft.

GRIMES COUNTY

Hubert Holt et al's No. 1 Simon Fuqua, 1,200 ft. N of S line and 400 ft. W of E line of 177-ac. lease and survey, Moses Evans Sur.
No report.

Dr. Marshall et al's No. 1-B Todd, 300 ft from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
No report.

HARDIN COUNTY

Esco Oil Co.'s No. 1 E. P. Seureau, 3,232 ft. from W line and 2,215 ft. from S line of 350-ac. tract, W. P. Harris Sur., Abst. A-30.
Rig up.

T. S. F. Oil Co.'s No. 1 J. B. Hine, Arthur McCormick Sur., Abst. 46.
Moving in rig.

HARRIS COUNTY

C. B. Bunte, Inc.'s No. 1 Laura Lackner, 6,400 ft. from E line, 194 ft. from S line of Henry Reinerman Sur., near NW city limits of Houston.
Cmtd. 7-in. csg.; T.D. 7,686 ft.; (corrected); comp. for gas well.

C. C. Foster and others' No. 1 H. K. Johnson, 2,000 ft. from S line and center of E and W lines of G.C.&S.F. Sur.
Drilled 25 ft. and S.D

W. U. Paul's No. 1 E. M. House, 2,300 ft. N and 1,000 ft. E of NE cor. of E. Benson Sur. in M. Magruder Sur.
Drlg. shale 5,664 ft.

JACKSON COUNTY

Atkins & O'Neil's No. 1 Hodges, C Sec. 21, Blk. 1, I.&G.N. Sur.
Moving in material.

Humble O. & R. Co.'s No. 1 Lowrance, 660 ft. from SW and SE lines of Wilson Sur. No. 5.
Coring shale and shells 5,493 ft.

JEFFERSON COUNTY

Magnolia Pet. Co.'s No. 1 E. Herbert Trust, 990 ft. N. 330 ft. E of SW cor. of P. M. Bell Sur. No. 3.
T.D. 9,708 ft.; to make electrical coring test.

Navarro Oil Co.'s No. 1 Talliver, 1,570 ft. from N line and 870 ft. from W line of Shadric Morris Sur.
Derrick.

Sun Oil Co.'s No. 1 H. Long, 1,500 ft. E line, 990 ft. E line of lease.
T.D. 8,407 ft.; set 7-in. csg. at 8,401 ft.; W.O.C.

LIBERTY COUNTY

R. M. Bruner et al's No. 1 N. Bell, 150 ft. from N line and 150 ft. from W line of Bell's 137-ac. tract, H.&T.B. Sur. No. 4.
Drlg.

Extension Oil Co.'s No. 1 J. A. Lovett, 330 ft. from E and 600 ft. from S line of lease, P. P. Deevers Sur.
S.D. 3,593 ft.

Liberty-Independent Oil Co.'s No. 1 J. M. Neal, 3,550 varas from E line and 500 varas from N line of Samuel Strong Sur.
D.S. stuck; T.D. 3,130 ft.

A. L. Maxwell's No. 1 M. D. Hinchliff, 300 ft. from E line and 1,000 ft. from N line of H.&T.C. Sur. No. 150.
Location.

Thomas et al's No. 1-A Hicks, 660 ft. from W line and 2,980 ft. from S line of tract in Green Sur.
T.D. 5,047 ft.; 6⅝-in. csg. at 5,029 ft.

Turnbull and Irwin's No. 1 Lynott and Burfum, 466 ft. S and E of NW cor. of SB 100 acres of W 400 acres of 856-ac. tract James Robeson Sur.
Prepare to set csg.; T.D. 7,511 ft.

MADISON COUNTY

Sunray Oil Co.'s No. 1 Ferguson, 1,000 ft S and 750 ft. E of SE cor. of Francis Fulcher Sur.
Moving in material.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Robbins, J. C. Frans Sur.
Abd. 5,095 ft.

Dr. Griffith's No. 1 fee, 2,000 ft. from S line and 2,000 ft. from W line of Wm. T. Bell Sur.
Rig up and S.D.

MONTGOMERY COUNTY

Reynolds Drlg. Co. et al's No. 1 Mrs. Clara B. Stewart, 330 ft. S and E of most easterly inner cor. of 595-ac. tract, John Corner Sur.
Drlg. wtr. well.

ORANGE COUNTY

Sinclair Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line and 150 ft. from NE line of Godwin 20-ac. tract.
S.D. 2,703 ft.

POLK COUNTY

Howard Dailey et al's No. 1 Z. B. Knox, 1,450 ft. W and 1,920 ft. S of NE cor. of F. Chairs Sur., 1½ miles NE of Corrigan.
S.D. 60 ft.

J. F. Anderson's No. 1 H. I. Duke (O.W.D. D.), 400 ft. from E and 350 ft. from S of SW cor. of P. Michelick 50-ac. lease, Abst. 66, P. J. Mineral Sur.
Waiting on a new mud pump; T. D. 5,-304 ft.

Dick Schwab's No. 1 Lynch, 330 ft. out of NW cor. of 200-ac. tract in the George Jameson Sur.
Location.

REFUGIO COUNTY

Cecil Hagen et al's No. 1 Edith Clarkson, 1,736 ft. from N line, 2,520 ft. from E line of J. Coughlin Sur.
Location.

Conroe and Santa Clara Oil Co.'s No. 1 Ella West, west part of county, near Blanco River.
Drlg. 5,400 ft.

Dale Sneed's No. 1 Peck, 366 ft. N and W out of NW and SW of Bonnie View Subd.
S.D. 6,636 ft.

Quintana Oil Co.'s No. 2-A O'Connor, 396 ft. from SW line, 1,107 ft. from SE line of Swisher Sur.
No report.

TRINITY COUNTY

Boone Bros.'s No. 1-C Texas Long Leaf Lbr. Co., 900 ft. due N of NE cor. of A. Henry Sur., Abstract 255.
Spudded.

VICTORIA COUNTY

Texas Co.'s No. 1 Irene Foster, 55° N, 2,-900 ft. E, and 35° E, 980 ft. from W of NW cor. of Sec. 10, F.&N.O. Sur.
Location.

Texas Co.'s No. 1 Thompson Bros. Lbr. Co., beginning at NW cor. of survey on Trinity River, thence N 55 deg., E 2,640 ft. S 35 deg., E 7,111 ft.
10-in. csg. at 265 ft.; T.D. 1,360 ft.

WALKER COUNTY

C. P. Kilgore et al's No. 1 Lamkin, 330 ft. from S line and 330 ft. from E line of Lamkin 1,000-acre tract in J. J. Holcomb Sur.
T.D. 5,010 ft.; in sandy shale.

WALLER COUNTY

Stanolind O. & G. Co. et al's No. 1 J. W. Tharp, 466 ft. from S and E lines of J. M. Bennett Sur. No. 100.
Rig up.

WHARTON COUNTY

Whitehead and Rash's No. 1 C. T. and D. Kountze, 1,320 ft. from N line, 330 ft. from E line of S.A.&M.G. Sur., Sec. 1, Abst. 328.
Location.

SOUTH LOUISIANA
ACADIA PARISH

Humble O. & R. Co.'s No. 1 American Rice Mills, 660 ft. S and 1,320 ft. W from NE cor. Sec. 27-10s-1e.
Drlg. sandy clay 56 ft.

ASCENSION PARISH

Humble O. & R. Co.'s No. 2 S. Gumbel & Co., 500 ft. southwesterly from No. 1, 275 ft. easterly from road and approx. 475 ft. N of S line of tract, Sec. 33-10s-2e.
Drlg. shale 3,436 ft.

BEAUREGARD PARISH

Gulf Ref. Co.'s No. 1 Lutcher Moore, 660 ft. from S line, 760 ft. from E line, NE Sec. 25-6s-12w.
Drlg. shale 7,529 ft.

Richardson & Martin's No. 1 Southwest Lbr Co., SW Sec. 6-5s-12w.
Location.

CALCASIEU PARISH

Fohs' No. 1 O. H. Castle, 330 ft. S and 330 ft. W of C Sec. 18-9s-3w.
Drlg. 3,006 ft.

Gumble O. & R. Co.'s No. 1-B Industrial Lbr. Co., 466 ft. N. 1,399 ft. W of the SE cor. Sec. 27-8s-12w.
Drlg. lime 5,749 ft.

Plummer & McDaniels' No. 1 Cockburn-Hood, 1,072 ft. E and 2,400 ft. N of SW cor. Sec. 13-10s-12w.
Location.

Union Sulphur Oil Co.'s No. 1 State Land, 1,940 ft. S. 2,513 ft. E of NW cor. Sec. 12-9s-8w.
Drlg. shale 6,634 ft.

Wheeler Oil Co.'s No. 1 Gabbert, 1,322 ft. E and 548 ft. N of SW cor. of Sec. 28-9s-7w.
Drlg. shale 3,962 ft.

EAST FELICIANA PARISH

Thompson Creek Oil Co.'s No. 1 Fannie Noland, 2,400 ft. E and 1,580 ft. N of SW cor. Sec. 70.
Drlg. shale 1,490 ft.

EVANGELINE PARISH

Humble O. & R. Co.'s No. 1 Haas, 1,250 ft SE of Bayou Nesplque, 466 ft. NE of SW line of Sec. 22-4s-1w.
Drlg. sand and shale 5,778 ft.

CAMERON PARISH

Texas Co.'s No. 10-A State, 16,855 ft. W and 3,270 ft. N of NE cor. Sec. 1-14-9w in Twp. 13s-9w.
Drlg. shale 6,262 ft.

Texas Co.'s No. 1 Jensen, 1,170 ft. E and 550 ft. N of C Sec. 24-14s-10w.
Rig up.

JEFFERSON DAVIS PARISH

George W. Strake's No. 1 Calcasieu Natl. Bank, 200 ft. S and E of NW cor. SE NE Sec. 12-9s-6w.
Drlg. shale 1,530 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 3 Harang Plantation.
No report.

A. L. Gay, trustee's No. 1 Godchaux, 2,920 ft. N and 1,740 ft. W in common cor. of Lots 34 and 26, Twp. 15s-19e.
S.D. 6,226 ft.

Southern Sulphur Corp.'s No. 1 D. L. Lagraize, 300 ft. E of NW cor. of Lot 7, thence 250 ft. S of Sec. 36-21s-22e.
Spudded and S.D.

PLAQUEMINES PARISH

Texas Co.'s No. 13 State-Garden Island Bay, Sec. 107-23s-32e.
Abd. 1,748 ft.; well blew out and cratered.

Venice Corp.'s No. 1 Burras.
Drlg. lime rock 1,548 ft.

RAPIDES PARISH

J. B. Evers' No. 1 G. Wettermark, 540 ft. S and 530 ft. E. NW cor. NE SW Sec. 35-3n-2e.
Rig up and S.D.

C. D. Loe's No. 1 Barrett, 330 ft. NW of SE line and 330 ft. NE of SW line of Sec. 40-5n-1w.
Rig up and S.D.

ST. BERNARD PARISH

Danciger's No. 1 Battles, 636 ft. N. 3,196 ft. W of SE cor. Sec. 135-14s-14e.
Drlg. 5,910 ft.

ST. LANDRY PARISH

Bailey Gaunce's No. 1 Lewis, 300 ft. N and E of SW cor. of NW of NE of Sec. 29-5s-6e (workover).
Reaming to bottom 5,043 ft.

H. J. Weir's No. 1 Declouet, Sec. 108-5s-5e, near Lafayette Parish line and 3 miles N of Anse La Butte Field.
S.D. 2,322 ft.

ST. MARTIN PARISH

Texas Co.'s No. 6 St. Martin Land Co., 660 ft. S and 500 ft. W of NE cor. SE Sec. 17-8s-7.
S.D. 9,559 ft.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 350 ft. S of N line, 350 ft. E of W line, NE cor. Sec. 32-11s-3e.
T.D. 4,054 ft.; fishing.

La.-Ark. Wildcats

(Continued from Page 54)

S, 330 ft. W, NE cor. SW NE Sec. 33-13-13.
Drlg. plug to treat with acid, 1,730 ft.

DeSoto Pet. Co.'s No. 1 B. Y. Wemple, C S½ SE NE SW Sec. 14-12-11.
S.D. 2,175 ft.

E. L. Foster's No. 1 Youngblood, Sec. 9-11-14.
R.U. to deepen 1,502 ft.

Hester et al's No. 1 Alston, 330 ft. S and W of center of Sec. 11-11-16.
Coring 2,350 ft.

George Le Grande's No. 1 Vance, 180 ft. N and W SE cor. SW Sec. 34-12-16.
S.D. for csg. 2,030 ft.

Ben F. Smith's No. 1 Bonds, 200 ft. E, 500 ft. N, SW cor. Sec. 23-12-11.
Drlg. 1,514 ft.

W. K. Williams' No. 1 Wemple, 400 ft. N, 330 ft. W, SE cor. Sec. 15-12-11.
Drlg. 2,100 ft.

LA SALLE PARISH

F. A. Trichello's No. 1 Urania, Sec. 3-9-1e.
Set 10-in. 62 ft.; drlg. 1,120 ft.

MOREHOUSE PARISH

Zeiger & Bacon's No. 1 Crossett, 400 ft. N, 300 ft. W, SE cor. Sec. 41-23-6e.
T.A. 3,111 ft.

NATCHITOCHES PARISH

Benedum & Trees' No. 1 Carrier Est., 300 ft. N and W, SE cor. Sec. 6-8-7.
Drlg. 4,105 ft.

Clyde Crichton's No. 1 Friedman Est., 406 ft. N, 428 ft. E, SW cor. Sec. 52-7-6.
S.D. for wtr., 1,088 ft.

Jack Lent's No. 1 Brown Lbr. Co., 400 ft. S, 300 ft. E. NW cor. NE SW Sec. 27-9-13.
P.B. to 2,420 ft.

Missouri Drlg. Co.'s No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,033 ft.

Roy A. Raines et al's No. 1 Raines est., 330 ft. N and E, SW cor. Sec. 8-9-10.
S.D. for water 2,406 ft.

OUACHITA PARISH

Hamilton Gas Co.'s No. 1 Parker, 557 ft. S, 473 ft. W, NE cor. Sec. 2-19-3e.
Set 6-in. 2,121 ft.

James A. Noe's No. 1 Wall, 184 ft. S, 1,-872 ft. E of C Sec. 25-19-3e.
Comp. 1,500,000 ft. gas 2,160 ft.

RAPIDES PARISH

Evans & Collingsworth's No. 1 Hickman, 330 ft. S and E, NW cor. Sec. 40-4-1e.
Dry and abd. 2,130 ft.

C. D. Loe, trustee's No. 1 Baird Est., SE cor. Sec. 40-5n-1w.
Rigging up.

RED RIVER PARISH

Louis L. Glass' No. 1 Dickson, 400 ft. S and W, NE cor. SE Sec. 32-12-8.
S.D. 1,020 ft.

C. M. Cope et al's No. 1 Thomas, 330 ft. S and E, C Sec. 34-13-3.
S.D. 2,375 ft.

O. K. Oil Co.'s No. 1 Franklin Realty Co., 100 ft. N and E, SW cor. SE SW Sec. 32-11-9.
S.D. 1,340 ft.

Windsor Oil Co.'s No. 2 Jenkins, 1,980 ft. S and E, NW cor. Sec. 14-12-11.
W.O.S.R. 2,775 ft.

SABINE PARISH

H. J. Brothers et al's No. 1 Edwards, 300 ft. S. and W. NE cor. SW NW Sec. 29-9-13.
Tested dry; W.O. 1,587 ft.

R. B. Campbell et al's No. 1 Cook Land Co., 150 ft. N, 300 ft. W, SE cor. NW NW S.D. 2,130 ft.
Tested dry after acid; S.D.; W.O. 1,935 ft.

Erle P. Halliburton's No. 3 Burkett, 330 ft. N and W, SE cor. SW SE Sec. 9-9-13
Pumping S.W. 2,044 ft.

Helena Oil & Gas Co.'s No. 1-B Graham, 330 ft. S and W NE cor. NE NW Sec. 20-9-13.
Pumping S.W. 2,000 ft.

L. D. Higgins' No. 2 Burkett, 330 ft. S and E. NW cor. NE NE Sec. 16-9-13.
W.O.S.R. 2,035 ft.

Lawson-Leavell's No. 1 Whitney Corp., 330 ft. N and E. SW cor. NE SW Sec. 5-9-13.
S.D. 2,086 ft.

Zan Lloyd's No. 1 Henderson, 330 ft. N and W. C Sec. 29-9-13.
W.O.S.R. 2,031 ft.

Dr. O. B. Hicks' No. 1 Neal, SE SW SE Sec. 18-9-12.
Set 10-in. 40 ft.

TENSAS PARISH

Schumacher, tr.'s No. 1 Curry, Sec. 39-11-12e.
Arranging to deepen 2,750 ft.

UNION PARISH

Carbons Consolidated's No. 1 Beasley, 1,050 ft. S, 150 ft. E, NW cor. Sec. 6-21-4e.
Set 12-in. 164 ft.; set 8-in. 721 ft.; drlg. 1,460 ft.

ARKANSAS
ARKANSAS COUNTY

Grand Prairie Realty Co.'s No. 1 Fischer, 200 ft. S and E, NW cor. NE NW Sec. 6-6s-4w.
S.D. 450 ft.

COLUMBIA COUNTY

F. E. Galbreath's No. 1 Pearce, 330 ft. S and W, NE cor. NW Sec. 7-17-20.
Dry and abd. 3,450 ft.

HEMPSTEAD COUNTY

Ark. Drlg. Co.'s No. 1 Jones, 1,000 ft. S, 600 ft. W, NE SE Sec. 11-14-24.
Testing 2,995 ft.

B. A. Austin's No. 1 McWilliams, 300 ft. N and W of SE cor. NW SW Sec. 19-13-22.
Washing to bottom 2,000 ft.

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26.
S.D. 1,992 ft.

F. W. Martin & Co.'s No. 1 Lafferty, 500 ft. N and W SE cor. NW Sec. 17-14-24.
P.B. to 2,200 ft.

LAFAYETTE COUNTY

Benedum & Trees' No. 2 Bodcaw, C SE SE NE Sec. 19-16-22.
Fishing for D.S. 4,719 ft.

Douglas Lawn's No. 1 Camp, 330 ft. S and W, NE cor. SW SE Sec. 14-15-22.
S.D. 2,910 ft.

W. H. Harvey's No. 2 Allen, Sec. 18-19-24.
Rigging up.

A. H. Tarver's No. 1 Russell, 330 ft. S and W, NE cor. NW Sec. 12-17-25.
S.D. 1,770 ft.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 4 Beck, SE cor. SE SW Sec. 34-15-26.
S.D. 2,915 ft.

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27.
S.D. 3,177 ft.

Ark. Oil, Gas & Ref. Co.'s No. 1 Beck, SW cor. NW SW Sec. 34-15-26.
1,200 ft. oil in hole at 2,920 ft.

King Oil Corp.'s No. 1 C. H. Schroder, 300 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28.
S.D. 3,020 ft.

Magnolia Pet. Co.'s No. 5 Olivet, Sec. 8-16-26.
Comp.; pumping 40 bbls. 2,940 ft.

A. C. Roan's No. 1 Frost Est., 150 ft. N and W, SE cor. SE SW Sec. 8-15-26.
Set 10-in. 120 ft.

Lee Timberlake's No. 1 Frost Est., 330 ft. N and E, SW cor. SW SE Sec. 27-15-26.
Set 10-in. 200 ft.

NEVADA COUNTY

O. F. Whittaker's No. 1 Wesley, Sec. 3-15-20.
Sidetracking csg. 1,508 ft.; T.D. 2,092 ft.

OUACHITA COUNTY

F. A. Book et al's No. 1 Arnold, Sec. 24-15-16.
S.D. 2,032 ft.

T. J. Gaughan's No. 1 Bragg, 330 ft. N and E, SW cor. NE SE.
Set 10-in. 104 ft.

UNION COUNTY

Jovian Oil Corp.'s No. 1 Perdue, 150 ft. N, 650 ft. E, SW cor. NW SE Sec. 2-17-14.
Drlg. 1,500 ft.

Mrs. R. K. Jones et al's No. 1 J. Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Fishing for csg. 2,764 ft.

Lion Oil Ref. Co.'s No. 10-A Flenniken, 200 ft. N, 630 ft. E, C Sec. 10-16-15.
W.O.S.R. 2,408 ft.

Joe Modisette's No. 1 Union Saw Mill Co., 330 ft. S and W, NE cor. NW SE Sec. 14-18-14.
Set 10-in. 105 ft.; drlg. 1,600 ft.

Reuter Oil Co., Inc.'s No. 1 J. L. Kinard, 330 ft. S and E, NW cor. SE NW Sec. 32-18-14.
W.O.S.R. 2,189 ft.

S. H. A. Oil Co.'s No. 2 J. W. Taylor, 330 ft. S and W, NE cor. NW SE Sec. 10-17-14.
Rigging up.

S. H. A. Oil Co.'s No. 1 Townsend, 330 ft. N and E, SW cor. SW NE Sec. 10-17-14.
Rigging up.

Skelly Oil Co.'s No. 6 W. H. Perdue, C SE SE NW Sec. 10-17-14.
Derrick.

Tubal Pet. Co.'s No. 1 Gaddy, 340 ft. N and E, SW cor. SE NW Sec. 14-17-14.
S.D.; W.O. 3,416 ft.

WOODRUFF COUNTY

L. P. Lively's No. 1 Perkins, 330 ft. N, 360 ft. E, SW cor. SE SE Sec. 5-8n-2w.
Rigging up.

J. N. Watkins et al's No. 1 Upshaw, 330 ft. N and E, SW cor. NW SW Sec. 17-5n-2w.
Rigging up.

MISSISSIPPI
AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e.
S.D. 550 ft.

BOLIVAR COUNTY

White & Jones' No. 1 Ballou, SE SE NW Sec. 17-24n-7w.
S.D. 20 ft.

GREENE COUNTY

United Gas Pub. Service Co.'s No. 1 Greene County School Land, W½ W½ Sec. 16-1n-5w.
Drlg. 3,650 ft.

HARRISON COUNTY

Big Ridge Oil Co.'s No. 1 Hinsin, NE Sec. 13-7s-10w.
Drlg. 1,050 ft.

HINDS COUNTY

City of Canton's No. 2 Belhaven, 50 ft. NW

of C Sec. 35-6n-1e.
Set 10-in. 750 ft.; drlg. 2,275 ft.

ISSEQUENA COUNTY

Pelican Oil & Gasoline Co.'s No. 1 Martin & Bender, 300 ft. S and E, NW cor. Sec. 11-12n-8w.
Drlg. 1,305 ft.

JONES COUNTY

Snow-Black Pet. Co.'s No. 1 Watson, 530 ft. W, 200 ft. S, C Sec. 34-7n-13w.
T.A. 3,900 ft.

LAUDERDALE COUNTY

Bob Dalton's No. 1 Bounds, Sec. 34-7n-15e
Set 10-in. 560 ft.; S.D.; W.O.

MONROE COUNTY

P. J. McAlpine's No. 1 Frank Rye, Sec. 14 15s-17w.
Drlg. 2,230 ft.
P. J. McAlpine's No. 1 Crook, 1,090 ft. S 90 ft. W, NE cor. Sec. 15-13s-15w.
Set 8-in. 730 ft.

SIMPSON COUNTY

Berry Corp.'s No. 2 R. T. Berry, Sec. 33 2n-4e.
Set 7-in. 3,048 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, SW cor SW SE Sec. 34-2n-9e.
Partly rigged up and S.D.

WASHINGTON COUNTY

Perkins & Deer' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 32-15n-8w.
Set 10-in. 200 ft. and S.D.

WINSTON COUNTY

Jack Vale et al's No. 1 Moody, 713 ft. N 667 ft. E, SW cor. NW SW Sec. 3-13n-14e
S.D. 20 ft.

La.-Ark. Proven Fields

NORTH LOUISIANA

CADDO—BLANCHARD

Louana-Pyramid's No. 1-A Wheeler, 660 ft S and W of C Sec. 4-18-16.
Comp. 500,000 ft. of gas, 908 ft.
Louana O. & G. Co.'s No. 3 Cushman, SE cor. SW SW Sec. 33-19-16.
Rigging up.
M. Segall's No. 3 Sharp, 330 ft. S, 1,550 ft. E, NW cor. Sec. 11-18-16.
Set 8-in. 20 ft.
M. Segal's No. 2 Sharf, 330 ft. S and W NE cor. NW NW Sec. 11-18-16.
Comp. 1,500,000 ft. of gas, 942 ft.

CADDO—HOSSTON

Shoreline Oil Corp.'s No. 44 Crystal, 220 ft. S and E of C Sec. 13-21-16.
Derrick.

SABINE PARISH—ZWOLLE

Alexander & Cane's No. 1 Fogman, SE cor N½ SW NE Sec. 18-7-11.
S.D.; W.O. 2,373 ft.
Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. NW SE Sec. 13-7-11.
S.D. for wtr. 2,120 ft.
Crichton & Co.'s No. 1 Williams, 660 ft. N and E, SW cor. SW SE Sec. 6-7-11.
Set 6-in. 2,345 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12.
S.D. 1,100 ft.
Foster & Hartman's No. 1 Bowman Hicks, 330 ft. S and E, NW cor. NE Sec. 10-7-12.
S.D.; W.O. 2,696 ft.
E. D. Holcomb's No. 1 Porter, 330 ft. S, 330 ft. W, NE cor. SE Sec. 7-7-11.
Pulling liner 2,550 ft.
H. C. Maulding's No. 1 Davis, 350 ft. N and W, SE cor. NE NE Sec. 2-7-11.
Rigging up.
H. C. Maulding's No. 2 DeLatin, 330 ft. S and E, NW cor. NE SE Sec. 3-7-11.
S.D. 2,250 ft.
Pelican Nat. Gas Co.'s No. 37 La. Long Leaf, 100 ft. S and E, NW cor. SE SE Sec. 8-7-11.
Comp.; pumping 20 bbls., 2,700 ft.
K. C. Peterson et al's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. SW NW Sec. 2-7-9.
Rigging up.
J. H. Reeves' No. 1 Bowman-Hicks, 1,650 ft. E, 335 ft. S, NW cor. Sec. 9-7-12.
Set 10-in. 40 ft.
Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-8-12.
Recmtd. 10-in. 134 ft.; T.D. 2,210 ft.
Coring 2,460 ft.

EAST TEXAS (BORDER COUNTIES)

CASS COUNTY

R. K. Kamon et al's No. 1 Savage, Mary Patterson Sur.
S.D. 4,016 ft.

HARRISON COUNTY

W. T. Boyd's No. 1 Rudd, John McWilliams Sur.
Set 8-in. 20 ft.; coring 1,520 ft.
R. C. Payne et al's No. 1 Lowery, E. D. Spain Sur.
P.B. to 3,524 ft.

PANOLA COUNTY

R. H. Davis' No. 1 Wooten Est., Winnie Mann Sur.
Set 7-in. csg. with packer 2,072 ft.
Givens & Holloway's No. 1 Wooten est., Winnie Mann Sur.
S.D. 2,153 ft.
R. W. Price's No. 1 Crawford, J. A. Williams Sur.
Rigged up and S.D.
Fred Stovall Drlg. Co.'s No. 1 H. B. Ivey, P. Martin H.R.S.
S.D. for csg. 1,930 ft.

SHELBY COUNTY

Cliff Stovall's No. 1 Pickering Lbr. Co., C H. Patterson Sur.
S.D. 1,130 ft.
Turner & Neil's No. 1 Pickering Lbr. Co., P. W. Harvey Sur.
S.D. 250 ft.

ALABAMA

HOUSTON COUNTY

Rice O. & G. Co.'s No. 1 Oakley est., SE cor. NW SW Sec. 9-2n-29e.
S.D. 2,410 ft.

LAMAR COUNTY

DeSoto O. & G. Corp.'s No. 1 Gardner, Sec. 23-15s-16w.
S.D. 4,183 ft.

Hundreds of Visitors to A.P.I. Meeting See Equipment Display in Dallas

Hundreds of visitors to the American Petroleum Institute convention in Dallas, Tex., last week, including many from foreign fields and representing all divisions of the oil industry, inspected the Oil Well Supply Co.'s display of new machinery and equipment in the Oilwell Building, 2001 North Lamar Street. Oilwell engineers and sales representatives acted as guides and explained features of the exhibit, which probably will be continued for several weeks for the benefit of oil men visiting Dallas.

Small display room, with "Oilwell" No. 20 steam slush pump in foreground

The display, occupying two large rooms on the first floor at the front of the building, contains the following:

In room adjoining the reception room:

(a) "Oilwell" No. 10 structural-steel pumping unit equipped with a Westinghouse ODH-110 double reduction gear driven by a Westinghouse one-quarter horsepower electric motor so that the unit may be seen in motion.

(b) "Oilwell" Westinghouse OP-35 double reduction gear driven by a Westinghouse one-sixth horsepower electric motor so the gears might be seen in motion. The cover is removed from the gear case so that visitors can see the sturdy construction of the fully heat-treated single-helical gears and the extra-heavy Timken roller bearings.

(c) Imperial No. 20 steam slush pump (15x7¾x20) equipped with a suction strainer and a Thermoid suction hose.

(d) "Oilwell" 6x4x6-A duplex steam pump for boiler-feed and general service.

(e) Wilson-Snyder No. 18 steam slush pump (14x7¼x18) equipped with a fluid chamber having two side suction flanges and one end suction flange.

(f) Imperial No. 50 oilbath geared power with two 24-inch eccentrics.

(g) Samples of miscellaneous production equipment such as rod elevators, sucker rod sockets and underground equipment.

(h) A display board showing microphotographs and cut-away sections of "Oilwell" fully heat-treated sucker rods.

(i) Large pictures of the new "Oilwell" sucker rod plant and various items of new equipment.

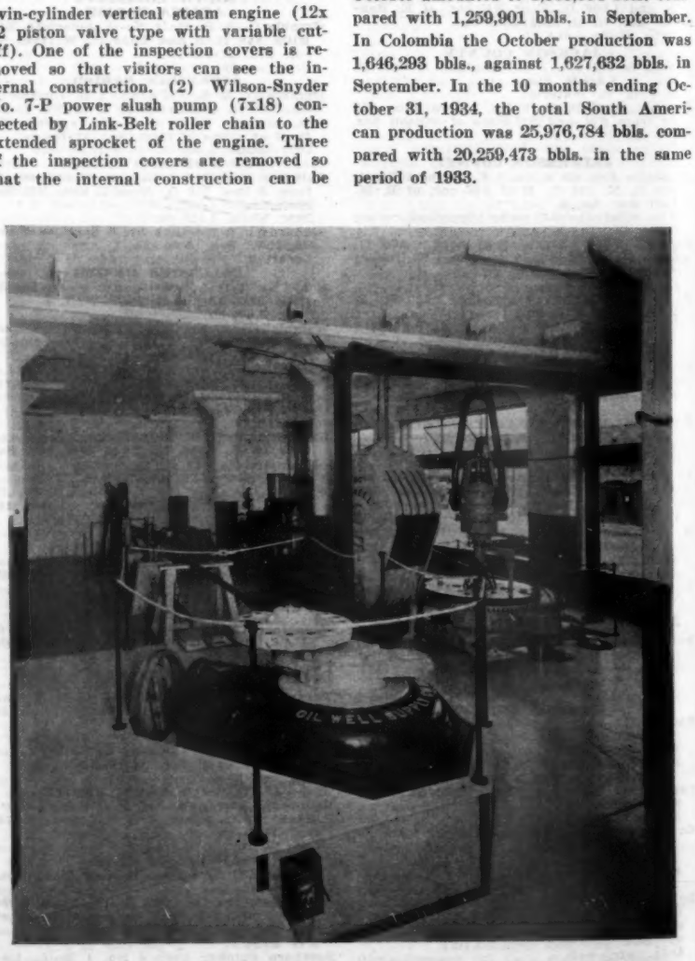
In the large display room to the right of the entrance hall:

(a) A central power hookkup operated by a small Westinghouse electric motor and including: (1) Imperial No. 80-SC oilbath geared power (single dual-stroke crank) with an inspection plate removed so that the double-reduction gears can be seen in motion. (2) "Oilwell" twin-cylinder vertical steam engine (12x12 piston valve type with variable cut-off). One of the inspection covers is removed so that visitors can see the internal construction. (2) Wilson-Snyder No. 7-P power slush pump (7x18) connected by Link-Belt roller chain to the extended sprocket of the engine. Three of the inspection covers are removed so that the internal construction can be seen. (3) "Oilwell" No. 7-P drawworks connected by two Link-Belt chains to the center sprocket of the engine. This drawworks has created a great deal of interest because of its compact unitary construction (the entire drawworks can be transported as a unit), its four-drum speeds and two rotary speeds with horizontal chain drives and other features. Only two shafts are used for the drum and rotary drive, the third shaft being used only for the cat heads. (4) "Oilwell" 26-inch all-steel make-and-break rotary—Model 34—driven by a Link-Belt chain from the drawworks. (5) Imperial No. 150-A swivel (150-ton capacity at 100 r.p.m.). This swivel is suspended from a structural steel frame and its forged-steel body is rotated by means of a short kelley section in the drive bushing of the rotary.

(c) In addition to the above machinery which is in motion, the following items are on exhibition in this display room: (1) "Oilwell" roller drive bushing. (2) "Oilwell" 80-inch streamline traveling block of great interest because of its size, streamlined construction, very large (46-inch) sheaves, and other interesting features. (3) Wilson-Synder No. 12 power pump (5x12) for slush and general service. The crankcase cover is removed so that its internal construction can be seen. (4) "Oilwell" regular style knockoff post. (5) Large pictures of miscellaneous "Oilwell" machinery including several interesting field views.

(d) Reels of American Steel & Wire Co.'s wire rope.

(e) Guard rails made up of Plymouth manila cordage, National Tube pipe and Walworth fittings.



Large display room, with Imperial No. 80-SC oilbath geared power in the foreground

INTERNATIONAL PETROLEUM CO.

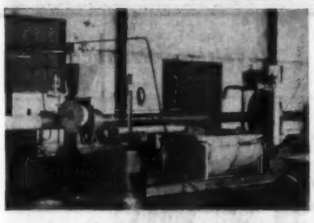
TORONTO, Ontario, Nov. 24.—Production of crude oil by the International Petroleum Co. in the Peruvian fields in October amounted to 1,303,554 bbls. compared with 1,259,901 bbls. in September. In Colombia the October production was 1,646,293 bbls., against 1,627,632 bbls. in September. In the 10 months ending October 31, 1934, the total South American production was 25,976,784 bbls. compared with 20,259,473 bbls. in the same period of 1933.

NEW AND IMPROVED EQUIPMENT

Two New Developments to Save Pipe From Corrosion

The Wailes Dove-Hermiston Corp., 17 Battery Place, New York, announces two new developments for protection of oil and gas pipe against soil corrosion.

The first is an improved grade of its Bitumastic enamel. The material, known as Bitumastic 70-B Enamel, will not sag



in summer temperatures and does not require any conditioning by the use of flux for low-temperature conditions. The same material is used regardless of temperature conditions of exposure.

The other development is the Cem-wrap machine, a new and unusual pipe coating device principally to apply a hot bituminous coating, such as Bitumastic enamel, followed, as part of the same operation, by an overlying Cem-wrap shield of one-quarter inch cement mortar. Felt wrappings, either single or double, and bonded or unbonded, can be easily applied over the enamel coating instead of the cement mortar. It therefore is possible to produce in one machine an extensive variety of coating combinations to meet every corrosive or laying condition.

To provide fast application, a simple end feed device was invented to convey the primed joints of pipe through the machine. These joints are temporarily fastened together by couplings so that an endless string of pipe is coated and wrapped.

LINES HANDLED BY JACKSON

W. V. C. Jackson, formerly district manager for the A. O. Smith Corp., is now a manufacturers' representative with offices in the National Bank of Tulsa Building. Mr. Jackson represents the following companies, with Oklahoma and southern Kansas as his territory: The Falk Corp., Milwaukee, speed reducers, motor reducers, flexible couplings and gears, other Falk products being handled by the Continental Supply Co.; Struthers-Wells Co., Warren, Pa., refinery vessels; Mercon Regulator Co., Milwaukee, regulators for the control of pressure flow level; Heil Co., Milwaukee, truck and trailer tanks; Harnischfeger Corp., Milwaukee, "P. & H." excavators, cranes, electric hoists, motors and pipe line equipment, but not including the Hansen welder, which will continue to be handled in this territory by the Moorlane Co.; refinery division of the Sivyer Steel Casting Co. of Milwaukee, and the Schubert-Christy Corp., Affton, Mo., cooling towers.

"Forging the Impossible" is the title of a bulletin announced by the Kropp Forge Co., 5301 West Roosevelt Road, Chicago. It deals with the company's business of making forgings to specifications.

The Edward Valve & Manufacturing Co., Inc., East Chicago, Ind., has issued Catalog No. 11-G4, describing forged steel specialties. Featured are "gauge" valves, "straight-through" valves, strainers, relief valves, special valves for turbine oil lines, oil well flow beans, and small forged steel stop-check valves.

Notes About Trade Literature

An eight-page bulletin has been issued by the Sullivan Machinery Co., 400 North Michigan Avenue, Chicago, on its one-man No. 6 prospecting core drill.

Ingersoll-Rand Co., 11 Broadway, New York, issued a catalog describing its stationary-type Diesel engine, of the four-cycle, single-acting, solid-injection type.

A booklet offered by the Garlock Packing Co., Palmyra, N. Y., contains details concerning the company's latest development, the Garlock Klozure, a new oil seal.

The Murdock Manufacturing & Supply Co., Cincinnati, Ohio, is sending on request literature descriptive of two new steam valves, the C.C.A. and the Q.A., and a new air valve, the Q.O.C., valuable as a flue and tube cleaner in refineries.

A bulletin featuring a new type of desander for removing sand from rotary drilling mud has been issued by the Merco Centrifugal Separator Co., Ltd., 343 Sansome Street, San Francisco, Calif. Heretofore the company has manufactured only one size, Type A-30, for large capacities.

Timken Steel & Tube Co., Canton, Ohio, has published a series of tables sent on request to all who have occasion to use steel in multiple lengths. This series entitled "Multiples at a Glance," is printed on standard letter size heavy paper, punched for standard three-ring binders. Ten convenient tables enable the steel user to tell at a glance either how long his stock must be to furnish a definite number of multiples or how many multiples can be cut from a given length of stock.

New Line of Gate Valves Is Announced by Kennedy

The Kennedy Valve Manufacturing Co., Elmira, N. Y., announces a new line of rising-stem heavy standard bronze gate valves for 150 pounds working pressure and 250 pounds working water, oil or gas pressure.

This valve, known as Figure 45, is a companion type to the new Figure 23 with stationary stem introduced earlier in the year. The operating mechanism employs solid wedge discs which are simple, heavily proportioned and accurately machined, and with no small quick-wearing parts which might cause trouble in service. This mechanism has been used for many years in other Kennedy valve types and is said to have operated with ease and certainty in any position.

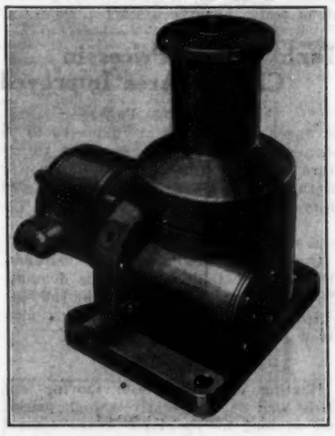
A flexible connection is provided between the disc and the stem so that the stem will not bind or spring when the valve is closed. The stem is made of a bronze composition with high tensile and torsional strength and has a large number of contact threads in the bonnet.

The bonnet hexagon has been made extra large and close to the body so that when a wrench is applied for installing or disconnecting, there will be no danger of distorting the bonnet. Additional features of this new Kennedy design are the deep stuffing box with gland and square section molded packing rings, the large nonheating malleable-iron hand wheel which is secured to the stem by a nut, and the heavy, wide pipe-end hexagons with generous number of threads.

A pamphlet, prepared jointly by the Meriam Co., 1955 West 112th Street, Cleveland, Ohio, and the engineers of the Socony-Vacuum Oil Co., contains operating instructions, oil and lubrication data, etc., for users of "Meriam" rebuilt gas engines. The practical facts and diagrams given are also designed to assist gas engine users generally.

Motorized Car Spotter Is Offered by Link-Belt Co.

In line with the effort to design machinery more compactly, Link-Belt Co., Chicago, announces that its vertical-capstan electric car spotter will be furnished



hereafter "motorized," meaning that the motor will be attached directly to the side of the spotter housing, with the result that no motor-shaft coupling or separate motor base-plate will be required. Proper initial and permanent alignment of motor shaft thus is assured, and the plan measurements of the foundation required are a minimum.

The motor shaft extends into a substantial one-piece housing, which contains all gears, a helical-gear reduction at motor and worm-gear set. The gears run in oil and are readily accessible. The motor is of high-torque fully enclosed type, and can be removed as a unit complete with motor pinion, without disturbing the rest of the machine. The capstan is machine finished to prolong the life of the car haulage rope.

The Link-Belt motorized spotter is of value in spotting box cars to be loaded at compounding houses and wax plants and in spotting cars to be unloaded at refineries. Like its predecessor, it is available in two sizes. The smaller machine has a rope pull of 5,000 pounds, and the larger size 10,000 pounds. An eight-page illustrated book, No. 1,392, covers this new product.

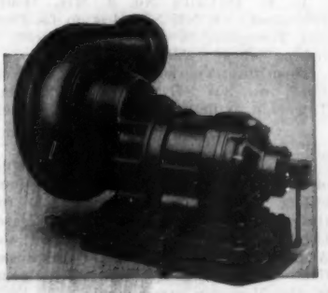
Men Well Known in the Equipment Field

R. D. BURRIS

The American Steel & Wire Co., Chicago, manufacturer of wire lines, with offices in the oil country, has appointed R. D. (Bud) Burris as field salesman in Kansas. Mr. Burris has a wide acquaintance in the oil fields of that state through having worked many years in them for various supply companies.

Geared-Head Turbo-Blower Makes Use of a Gearmotor

A new, exceptionally compact centrifugal compressor (turbo-blower), making use of a gearmotor, is introduced by Allis-Chalmers Manufacturing Co., Milwaukee, Wis. By using the gearmotor for speed increase, the blower can run



at higher than motor speeds, thus reducing dimensions and improving performance.

Pressures from .75 pound G. to 3 pounds G. are developed, the volumetric capacities corresponding to motor outputs from 3 to 30 horsepower.

The units have application for oil and gas fired furnaces, pneumatic conveying, agitation and aeration, and for similar moderately low pressure air or gas supply services.

At a meeting of the board of directors of the General Electric Co. Francis D. Bartow was elected a member of the board.

Michigan Fields

(Continued from Page 61)

Harry Oil & Development Co., of Hastings, also is reported moving in to deepen the Kinney well in Barry County, near Hastings, below the Traverse formation in which it was stopped at 1,400 feet.

Osceola County

Mellon-Pollock Oil Co. and the Wittmer Co. have plugged and abandoned their No. 1 Elwyn J. Johnson test, SW SE NE Section 1-27-n10w, Richmond Township, Osceola County, after it was dry in the Dundee topped at 3,772 feet and drilled to 3,781 feet. The drill penetrated two water levels in the Dundee.

Lapeer County

Although the George Henry Flynn Oil & Gas Corp.'s No. 1 Samuel P. Conkling, E SW NW Section 4-8n-9e, Oregon Township, Lapeer County, was dry in the Berea recently, operators are considering making it a deep test because of favorable structure levels.

Three other Oregon Township tests were shut down, one drilling and one test starting on a new location in Mayfield Township.

Saginaw County

Chapin Oil & Gas Co.'s No. 1 Sutliff, Section 16, Chapin Township, is still shut down in the upper Traverse at 2,507 feet.

Fred Turner and others' No. 1 Sunrise Co-operative Community, SE SW SE Section 6, Albee Township, is drilling, as is the Great Northern Oil & Gas Syndicate's No. 1 James M. Olmstead, SW SE NW Section 23, Tittabawassee Township, but not yet near possible production.

Montcalm County

Three new tests are being started in Richland, Crystal and Belvidere Townships, of Montcalm County, after a lull due to completion of several dry holes.

Rex Oil & Gas Co.'s No. 1 Keeler-Church, C SE NW Section 17-12n-5w, Richland Township, is drilling at more than 1,000 feet on a location near the discovery gas well on the Beach lease several years ago. Two other tests were started in the vicinity but never completed to the gas sands.

Machinery is being moved in to start the J. W. Leonard, Jr., and others' No. 1 Otto and Goldie Durbin test, NW NW NE Section 11-10n-5w, Crystal Township, on which a rig was erected several months ago.

Derrick also is reported going up for a new test by the Goff Brothers in Section 14, Belvidere Township, near Fitch Lake north of the village of Six Lakes.

L. E. DuVall's No. 1 Mrs. Henry Eikenroch, NE NE NW Section 13, Pierson Township, is still held up with a fishing job at 1,235 feet.

Tope-Blunt-Voorhees' A No. 1 Neff ranch test, SW SE NW Section 22, Day Township, is drilling at about 3,375 feet.

Mecosta County

Taggart Brothers have reached a depth of 650 feet where they are setting 8-inch casing again in their second hole for their No. 10 on the Fin Johnson lease, C SE NW Section 4-14n-9w, in the Austin Township, Mecosta County gas field. It will probably be completed soon in the Michigan stray sand.

Two other Mecosta County tests, one in Green Township and the other in Martiny Township, are drilling at more than 1,00 feet deep. They are the Daily Crude Oil Co.'s No. 1 J. O. Rouen, SW SE SW Section 24, Green Township, and the Gordon Oil Co. and others' No. 1 Engleman, SW NW Section 9, Martin Township.

Seven other tests are active including one in Hinton Township, three in Millbrook Township, two in Sheridan and one in Morton Township.

Gratiot County

Mid-States Oil Development Co.'s No. 1 W. L. Yost, SW NW SE Section 27-12n-2w, Bethany Township, Gratiot County, was shut down nearing the Sylvania at 4,400 feet but is expected to be continued as a deep test.

McClanahan Oil Co.'s No. 1 Sullivan, NE SW NW Section 33-12n-3w, Pine River Township, was drilling at about 2,000 feet.

Livingston County

At the edge of Howell, Livingston County, about 300 yards from the highway, on the farm of the McPherson Farms Co., an oil well is drilling at 2,000 feet and they plan to go to 4,500 feet unless oil is found before. The people of Howell are not greatly excited as they had a dry hole east of the town three years ago.

New Locations

Ten new permits were issued during the week of November 14 to 21 by the state conservation department including seven in four townships of Isabella County and one each in Montcalm, Ogemaw and Allegan Townships.

The new Isabella County permits were the Wittmer Co.'s No. 1 Hugh McLachlen, SE SE SE Section 11-15n-4w, and No. 1 Durl Phillips, C W NE NW Section 13, and the Old Dutch Oil & Gas Co.'s No. 1 A. Pollard, C NE NW Section 1, all in Isabella Township; two in Denver Township, namely, Gordon Oil Co.'s No. 1 John Demski, SW NW SE Section 28-15n-3w, and D. W. Null, trustee's No. 1 Prout, SW SW SW Section 7; Chippewa Oil & Gas Co.'s No. 1 Mrs. Diehl, C NE SE Section 15-14n-6w, Broomfield Township; and W. J. Bernier's No. 1 Clarence Bebee, C SE SW Section 36-15n-6w, Sherman Township.

The others were: J. W. Leonard, Jr., and others' No. 1 Otto and Goldie Durbin, NW NW NE Section 11-10n-5w, Crystal-Montcalm; Bear Creek Oil & Gas Development Co.'s No. 1 John Fors, NE NE SE Section 29-3n-14w, Heath-Allegan and Muskegon Development Co.'s No. 1 Cora F. Barber, SW SW NW Section 28-22n-2e, West Branch-Ogemaw, all of which have been started.

Tank Wagon Prices in Chicago Area Improved

(Continued from Page 33)

advanced officially or are expected to be advanced soon. This is expected to restore a certain amount of buying power in the spot market, which has suffered from lack of this in recent weeks.

Kerosene

Quiet conditions remain in kerosene. Offerings are limited, but so is demand. Prices are just about holding, or showing a trace of easiness. Recent rains may aid a little late field work.

Heating Oils

Heating oils have been moving out fairly well at comparatively high prices, and so long as the East Texas control has proved so tight, the tone of these products in the market seems to be strong. Retail price conditions are better than a month ago. Weather has been only moderately favorable.

Industrial Oils

General industrial activity in this region is slowly rising and if this trend continues, some reflection may be shown in demand for heavy oil products, although improved call will have to overcome a tendency on the part of some buyers to swing to other fuels. There have been many threats and some actual action from buyers to this effect in the last few months.

Lubricants

Lubricants are not attracting much trade interest at this time. Prices are sluggish and buying is not reaching anything like important levels. Retail motor oil sales appear fair.

Wax

Wax continues rather featureless. Buying remains strictly along routine lines and inquiries are in the same general category. Stocks have increased a little but still do not seem particularly burdensome.

Naphthas

Solvents, naphthas, diluents, etc., remain in a dull strain in contrast with fluctuations in the gasoline market. Consuming industries present somewhat spotty and irregular conditions but on the whole the volume is sufficient to maintain prices.

CANADIAN TAX BURDENS

CHATHAM, Ontario, Nov. 24.—Illuminating information regarding the tax burdens of the gasoline industry was given by City Manager A. L. Thompson in a recent address. The speaker pointed out that on gasoline sold in Chatham no less than seven different taxes were imposed, aggregating approximately 11¼ cents a gallon. The taxes include a 2½-cent per gallon import duty, a 3 per cent excise tax and a 6 per cent sales tax, all imposed by the federal government; a 6-cents-a-gallon road tax by the provincial government; and to the municipality the regular mill rate on the property and a business tax. In addition there is liability to income tax.

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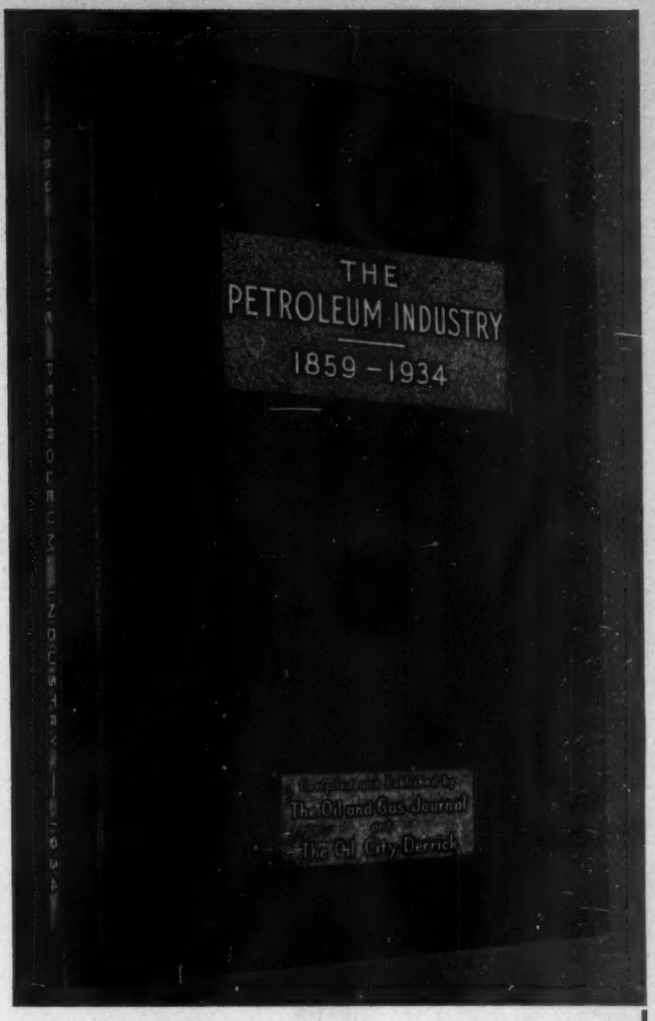

This notable book first appeared as the Jubilee Section of the Journal's Diamond Jubilee Number, published in August. The heavy and continuous demand for copies of that issue has proved beyond question the real worth of this information, never before compiled within two covers. "The Petroleum Industry" is now brought out in permanent binding, for the benefit of readers who wish to preserve this reliable record for constant reference. The oil company, or individual oil man, whose library does not contain a copy of this history may well feel handicapped until a copy of "The Petroleum Industry" has been placed upon those shelves.

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